

Riding the Waves

A Life in Sound, Science, and Industry

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Prologue

September 23, 1962. Summer glides into autumn, topcoats appear, and New Yorkers brace for the opening of Philharmonic Hall, the first in the complex of buildings to rise at Lincoln Center for the Performing Arts on Manhattan's Upper West Side.

Scores of chauffeur-driven limos jam the intersection at Columbus and Amsterdam. "There's Jackie!" someone shouts. The First Lady, elegant as always, smiles and waves as she passes through the hall entrance. She has made a special effort to come. Back in Washington, JFK awaits the arrival of President Ayub Khan of Pakistan, a key U.S. partner in the ever-deepening Cold War. Jackie, the consummate hostess, will meet up with them later, but not before joining other luminaries here—John D. Rockefeller III, Adlai Stevenson, Dean Rusk, U Thant, and a host of others—to celebrate the start of a new epoch in the performing arts.

And here I am, too, a nerve-wracked soul among more carefree celebrants. I'm decked out like the rest in white tie and tails. I smile, but know full well that my role as acoustics consultant to architect Max Abramovitz will make or break my reputation.

The job has been a complex one, further complicated by politics, miscommunication, and poor choices. After months of travel to the world's concert halls and of interviews with renowned conductors and music critics, I started working with Max, confident and full of energy—thrilled, too, when he accepted all my recommendations. The public got to see what we had come up with in early December 1959, when the *New York Times* carried a flashy front-page feature titled "Final Design," complete with architect's rendering of the hall.

But soon after that, things quickly unraveled. The public cried, "Elitism!" how "unconscionable," the newspapers ranted, to provide fewer seats than in

Carnegie Hall, the Philharmonic's current home, then scheduled for demolition. Without consulting me, the beleaguered building committee told Max that 2,400 seats (the maximum my surveys showed possible) wouldn't do—he must come up with at least 2,600, still fewer than Carnegie's 2,746 seats but perhaps enough to quell public outrage (he eventually crammed in 2,646). To achieve extra seating without having to redesign the whole hall, Max nudged me into agreeing to bow the side balconies, but failed to tell me of a change in their orientation—they would now slope steeply downward rather than extend horizontally, on the level. Nor could he come up with a way to include a limited number of acoustical panels above the stage and over the first few rows of seats, a much-praised enhancement that I had recently designed for installation in the Tanglewood Music Shed, summer home of the Boston Symphony Orchestra. A few months before the grand opening, he called for the panels to extend over the entire seating area. I acquiesced once again, but only after he assured me the panels would be installed in such a way that all or part of them could be pulled up to the ceiling if the scheme proved acoustically unworkable. Then, after a bad dream in which he saw swaying panels collide during an earthquake, Max instructed the builder to weld them together into a gigantic raft that could be moved neither up nor down. Finally, the building committee, in a last-ditch effort to reduce the already sky-high cost overrun, rejected our plan to add the kinds of surface irregularities to side walls and ceiling (niches, statues, coffers, and the like) that are acoustically crucial to the best concert halls, and hired an interior decorator to cover up the lack of adornment.

Small wonder the butterflies in my stomach are starting to bite like gnats. I've done my best, but the people around me seem completely unaware of the delicate balances that can turn an acoustical gem into a rhinestone and vice versa. Yet they all have the highest of expectations. And I, too, feel hopeful that, though the hall won't be perfect tonight, any problems can be fixed in the months ahead.

The trial concert the night before has gone well, with an audience consisting of workers from our construction crews, Lincoln Center members, the architects, and some music critics—all appreciative, yet biding their time till opening night, when the performance will be sure to set off a groundswell of either enthusiasm or hostility; indifference is simply not in the cards. Our first hint of trouble comes when the Philharmonic's music director, Leonard Bernstein, remarks that he "would like to have the panels over the stage

higher.” The audience files in for the grand opening—some pausing to chat and sip champagne, others scurrying to their seats, most thrilled to be in the inauguration of Lincoln Center, all eagerly awaiting Bernstein’s familiar stride to the podium.

The program features excerpts from Beethoven’s *Missa Solemnis* and Mahler’s Eighth Symphony, a double-sized platform, an oversized orchestra, three choruses, and a dozen or more vocal soloists. During musical climaxes and at forte levels, the chorus voices come through distorted and out of balance. Intermission talk revolves around sound quality; adjectives range from “magnificent” to “terrible,” and everything in between. Some well-known conductors and composers chime in. Leopold Stokowski pronounces the sound outstanding in every way; Virgil Thomson senses something wrong with the lower ranges. Roy Harris worries about excessive highs; Julius Rudel and Max Rudolf point to occasional mushiness, lack of clarity in choral tone, and a perceptible echo. A few like Samuel Barber urge caution, saying it’s too early to judge.

For me, the evening can’t end soon enough. I head back to my hotel with a splitting headache triggered by the blare of the orchestra and the choruses and that spot in the Mahler where a percussionist strikes a rail with a sledgehammer.

In the aftermath, “debacle,” “disaster,” and “catastrophe” become labels of choice. Acoustics—a science often misunderstood and generally taken for granted—provides grist for cocktail chatter: everyone is now acoustics-struck; no one is without an opinion. People talk less about how Bernstein conducts or Cliburn plays than about how well (or not) the bass projects and how today’s sound compares with yesterday’s. Public reaction follows the contours of a fever chart—now up, now down. Harold Schonberg, principal music critic for the *New York Times*, injects a note of optimism. “I have grown to like the sound in Philharmonic Hall,” he writes a few months after the opening. “When its central problem [weakness in the bass] is overcome, Philharmonic Hall will be one of the world’s great auditoriums. [I]t will be a hall of unusual clarity and honesty in which musical strands are never obscured and in which sound has remarkable presence.”

My colleagues and I get right to work measuring, analyzing spaces and contours, proposing adjustments, and prescribing ways to improve the bass projection. Lincoln Center management is receptive at first, but their president, William Schuman, wracked by doubt and desperate that there be no

more foul-ups, asks the architect to assemble a committee of acousticians to evaluate the hall and make alternate recommendations. Schonberg changes his favorable opinion of the acoustics when a member of this committee declares that he has come on board essentially to clean up the mess I have left behind—and in the process, he adds, “to save the acoustics profession.”

There’s enough blame to go around, of course, but by now I’ve become a convenient scapegoat. My dream of a great hall and my reputation as an acoustician both appear to be going up in smoke. I square my shoulders and press ahead with other work regardless. Nearly four decades will pass before the *New York Times* comments that “the success of the new Tokyo concert halls can be seen as a vindication for Dr. Leo L. Beranek, who received years of negative publicity after the 1962 opening of New York’s Philharmonic Hall.” A redemption more than a vindication, perhaps, but I’ll take it anyway.

Why begin my memoir with a tale of colossal failure? Certainly, because it stands out in my memory. But, more important, because I learned much from this failure—in particular, it gave me a chance to pause, to reflect, to sort things out, to regain confidence, and to acquire new perspectives. Although my account of events that follow may appear at times to straddle a line between fact and fiction, understatement and hyperbole, the credible and the unlikely, I’ve taken pains to lay everything out just as I remember it and as my records show. Friends and associates have helped me winnow out the chaff and train my sights on the most important, most illustrative, and most entertaining.

I hope my story will appeal to a variety of readers, including historians, engineers, and executives. But, even more, I hope that it will strike a chord with lay readers whose experiences may differ from my own, but who can relate to the roller-coaster swings—the successes and failures, joys and sorrows—that life throws our way. I hope that pulling together what worked so well for me—and what clearly did not—will prove useful to them.