

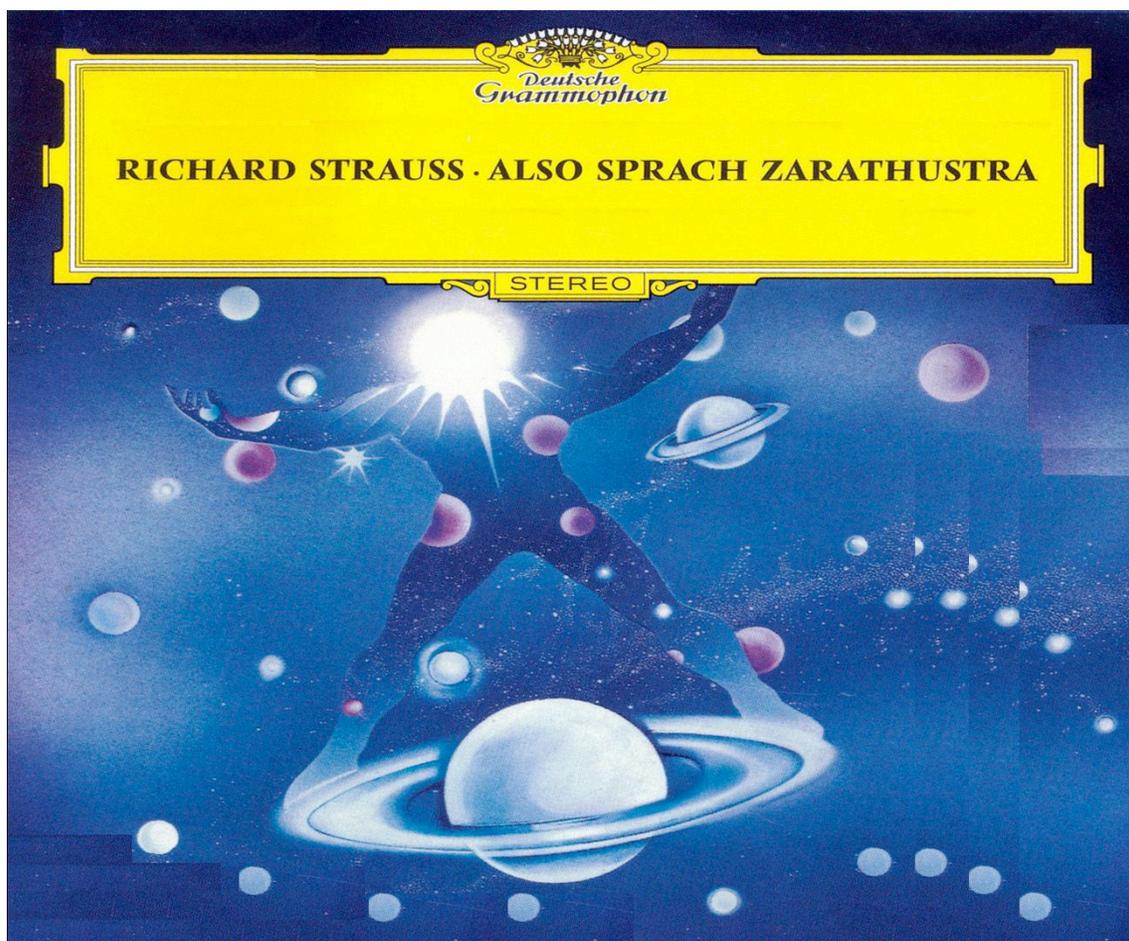
from  
ROCHESTER  
INTO THE

GOLDEN AGE  
OF  
CLASSICAL MUSIC  
RECORDING

AN AURAL MEMOIR  
BY  
THOMAS MOWREY

Script for  
From Rochester Into The Golden Age of Classical Music Recording  
by  
Thomas Mowrey

Delivered orally with projected visuals on Saturday, September 14, 2013 at the  
Hawkins-Carlson Room in Rush Rhees Library, University of Rochester



Good afternoon. I'm Tom Mowrey. I hope you enjoyed that modest little introduction. I was the executive producer of that recording with William Steinberg and the Boston Symphony 40 years ago, and I like to think that it still packs a pretty good punch. In case you were wondering why the organ sounded flat at the end there, I think I've probably heard at least 25 different recordings of that piece over the last 40 years, and I don't think I've ever heard one where it doesn't. I believe it's actually a psychoacoustic phenomenon caused by a mutant strain of the Doppler Effect during the recording process, rather than bad tuning, but of course, if those recordings were being made now, the questionable intonation would be a mute point, so to speak. The engineer would simply run the organ through AutoTune and it would instantly sound up to snuff. That's one small example of the power that lies at our fingertips in today's digital audio world.

What I want to talk to you about this afternoon is what I believe to be a very significant body of work in the history of sound recording which was created over the 40-year period from approximately 1950 to 1990, and some very important contributions that this University and its Eastman School made to it. I call this the Golden Age in Classical Music Recording, because during this time the entire canon of western classical music was recorded and re-recorded to the highest musical and technical standards and disseminated around the world by six major international classical music record labels and a number of smaller, independent companies.



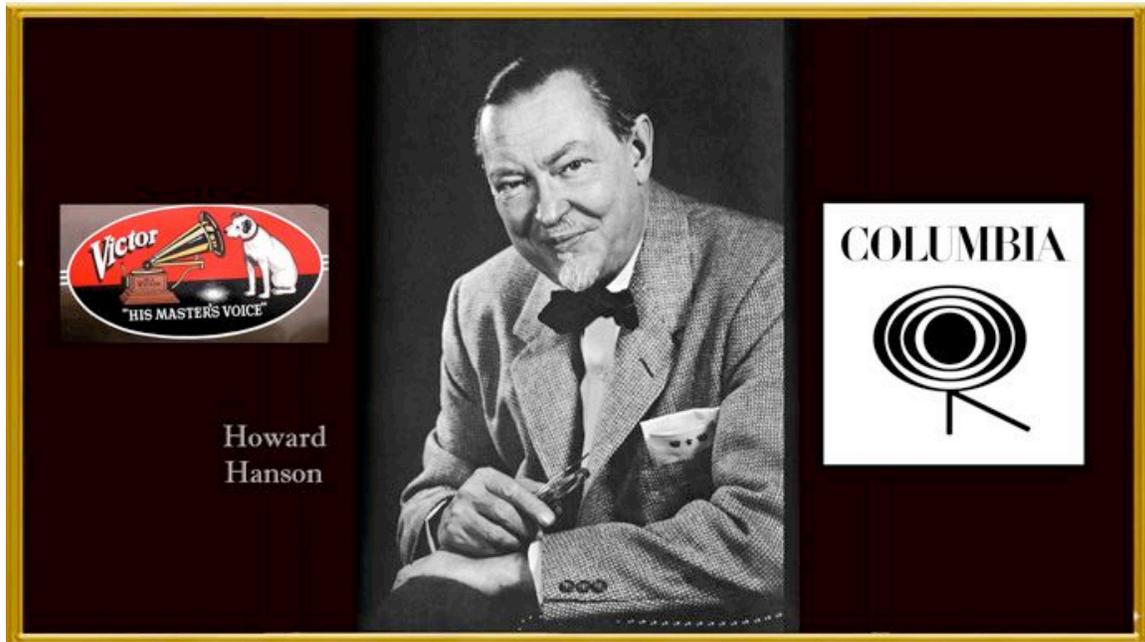
I had the privilege of participating in this effort for about 25 of those 40 years. While most all of my work was done as both a studio producer and executive producer, I was also head of marketing and director of Artists and Repertory in America for Deutsche Grammophon. I began doing that in 1969, but to tell you how I got into it, I have to backtrack ten years.

I graduated from high school in Pennsylvania in June of 1959, and in September, I arrived at the Eastman School with the intention of becoming the world's greatest concert pianist. It took me about a week to figure out that that wasn't going to happen. Not only was I not the best pianist at Eastman, I wasn't even the best pianist in my dorm room. My freshman roommate, Dave Worts, was tearing through Bach Fugues while I was still stumbling through the Three-Part Inventions. My fingers were too fat. However, what I lacked in digital dexterity I made up for in aural acuity. I had exceptionally good ears.

I also had a fantastic music theory teacher named Elvira Wonderlich who taught me how to use them. She taught me how to listen. As Yogi Berra might have put it, you can hear a lot just by listening. My whole career as a record producer was based on the ability to listen very carefully, and I began to learn how to do it right right here at the University of Rochester's Eastman School of Music.

The Eastman School itself has played a very significant part in the development of modern audio and the classical record industry. This started around 1940 with some recordings of American composers by an Eastman orchestra conducted by Howard

Hanson, the legendary Director of the Eastman School, for the label on the left here — RCA Victor.

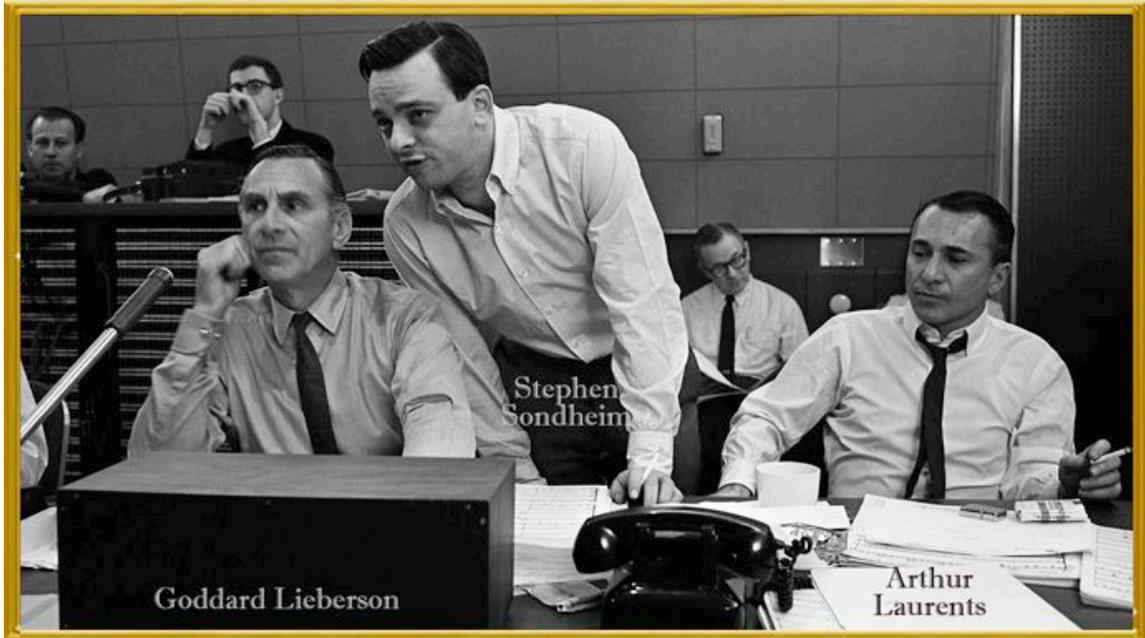


RCA was home to Enrico Caruso in earlier days, and then to Arturo Toscanini and the NBC Orchestra, Fritz Reiner and the Chicago Symphony and Arthur Fiedler and the Boston Pops at the beginning of the Golden Age. But Howard Hanson and his Eastman orchestras had also been RCA artists, starting back in the 1930s.

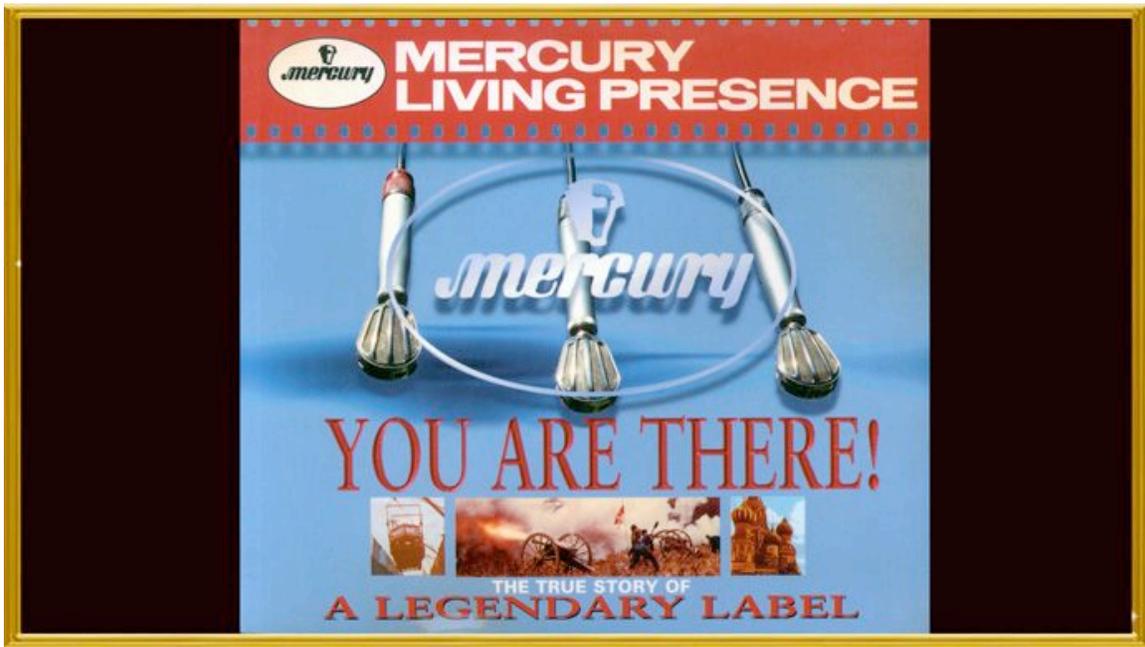
The Eastman relationship with RCA came to an end during World War II, but that wasn't the beginning of the end for commercial classical recordings coming out of Rochester. Instead, as Winston Churchill once said, it was only the end of the beginning. Turns out that during the 1930s there had been an Eastman student by the name of Goddard Lieberon who was a fast-rising star in the executive ranks of Columbia Records, and the next thing you knew, Hanson and his Eastman musicians were recording for Columbia.

Lieberon was from the U of R Class of 1935, and he was a towering figure in the history of recording — in fact I would say that was he more than any other individual who was responsible for creating this Golden Age, and here's how he did it: In the mid-1940s, he persuaded his boss, the founder of CBS, William S. Paley, to bet the farm on a new home audio format called the Long Playing Record.

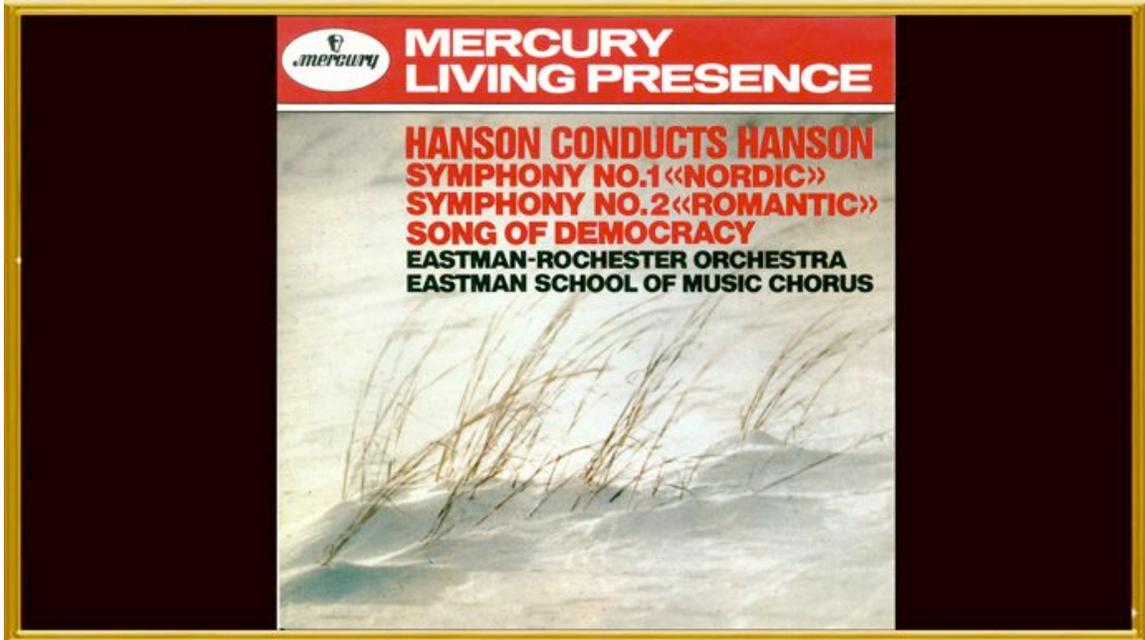
It had been invented by CBS's Peter Goldmark, but it was Goddard Lieberon, who by that time was President of Columbia Records, who saw that the LP was introduced to the market in 1948. It's because of him that Eastman's Sibley Music Library contains only 50,000 LPs instead of 500,000 12-inch 78 rpm records. Lieberon was also responsible for overseeing the recording careers of dozens of musical legends, including Eugene Ormandy, Leonard Bernstein, Isaac Stern, Rudolf Serkin and Glenn Gould, and he practically invented the Broadway Cast Album with his production of *My Fair Lady*.



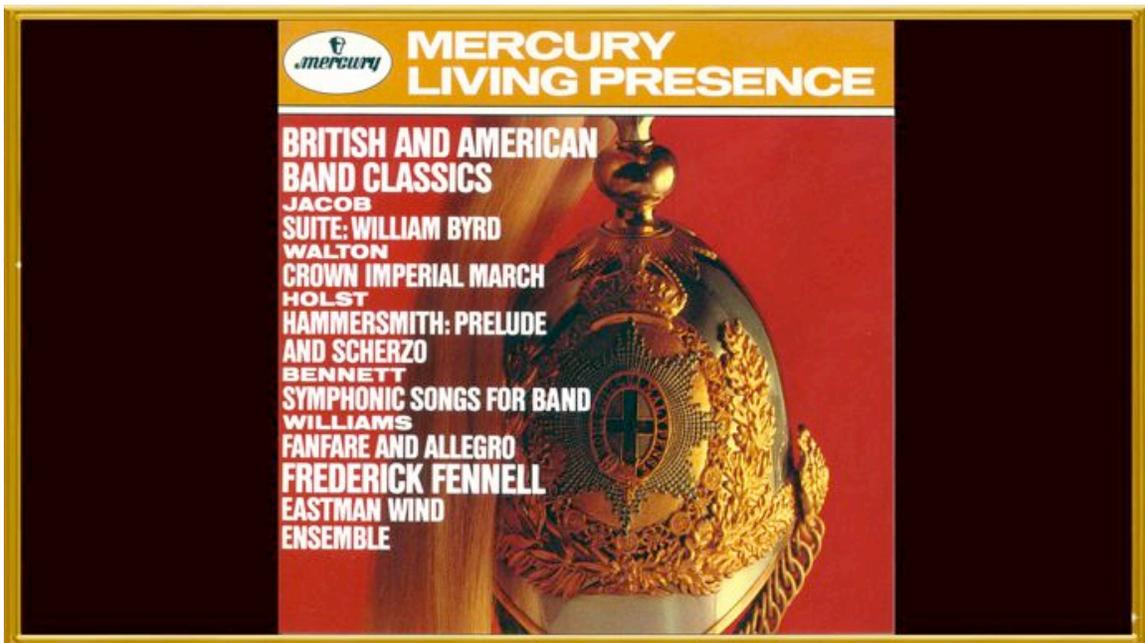
In the early 1950s, however, Howard Hanson got into a little spat with his former student at Columbia, and he found a new partner for his recording ambitions — an upstart label called Mercury Records.



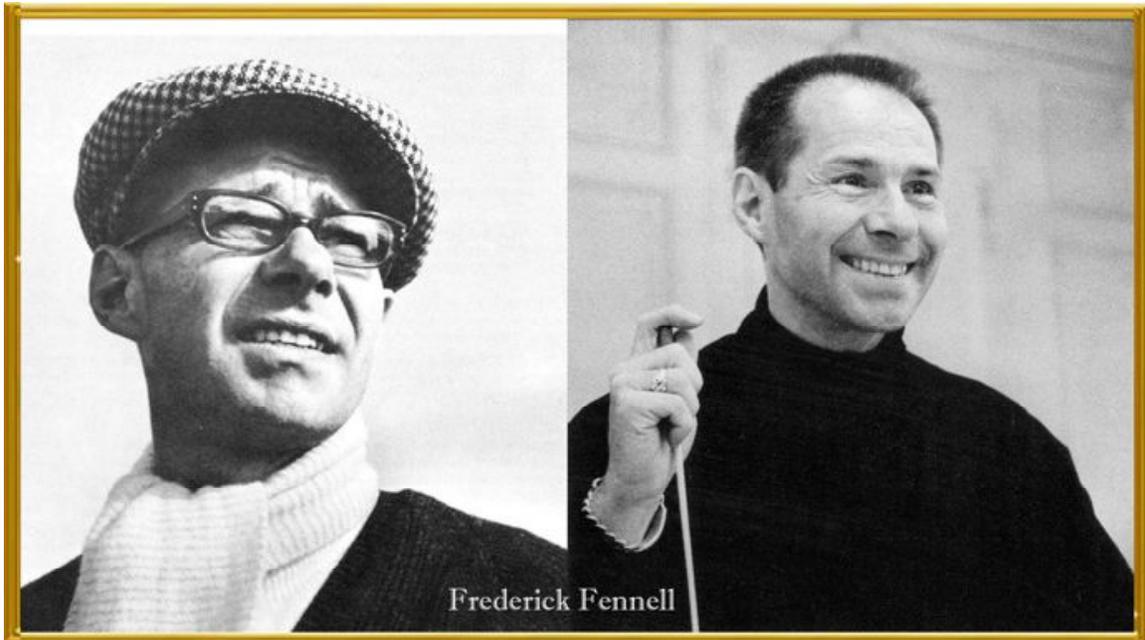
Mercury was never one of the big six, but it occupied a unique niche just below them. Mercury had a very rigorous recording philosophy — with three closely spaced microphones hung above the front of the recording stage, feeding three audio tracks on half-inch magnetic tape and eventually on 35 mm film. Mercury recordings had an honesty, immediacy and visceral impact which was instantly appealing and enormously successful in the market.



In 1953, Hanson negotiated a long-term, extensive recording contract with Mercury, and over the following ten years he conducted the Eastman-Rochester Orchestra and Frederick Fennell conducted the Eastman Wind Ensemble in 65 LP recordings for Mercury, many of which are classics in the pantheon of audiophile recordings. They sold extremely well and brought immense renown to Eastman. Hanson's recordings focused mainly on 20<sup>th</sup> century American composers, including himself, but he served lots of other composers extremely well in these recordings.



Fennell's recordings with the Eastman Wind Ensemble were perhaps even more popular than Hanson's. I mean, what's not to like about Sousa Marches and Walton's Crown Imperial, especially when played with such flair and recorded so spectacularly.



Fred Fennell and the Wind Ensemble also recorded the classical wind repertoire from Mozart to Schönberg. Like some other popular conductors such as Leonard Bernstein, Herbert von Karajan and Arthur Fiedler, Fennell was short of physical stature, but like them, he was a dynamic musical personality and a very persuasive person. In fact, it was his persuasiveness that propelled me toward my career as a classical record producer. Let me tell you how that happened.



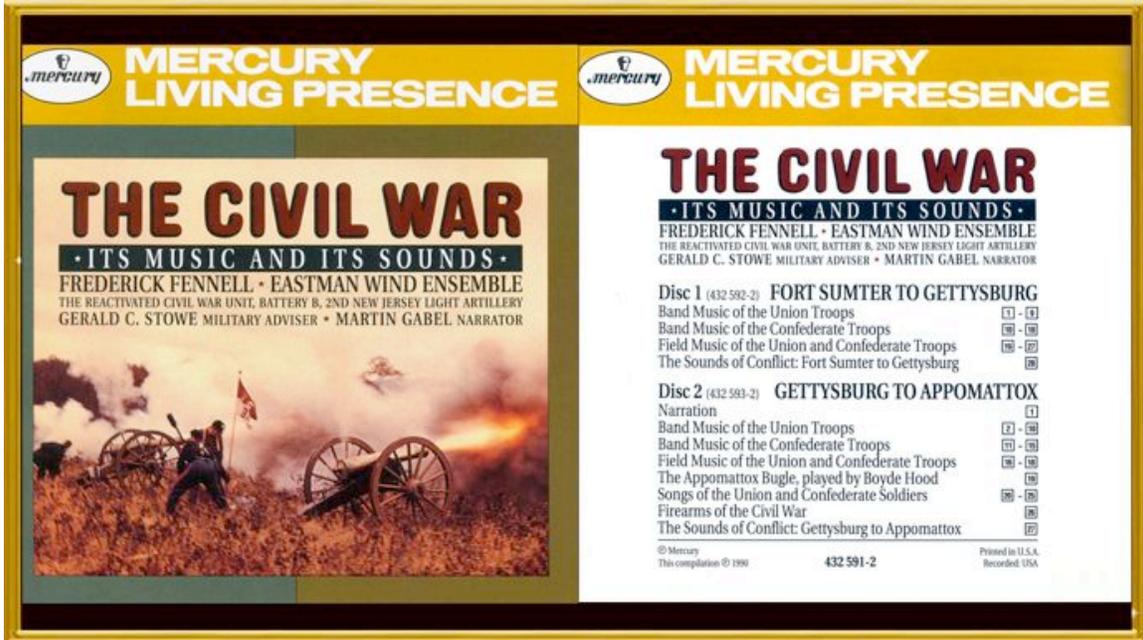
Here I am as a 19-year-old sophomore, standing in the main hall at Eastman. I'm the one in dark glasses, looking bewildered. I knew I wasn't going to be a concert pianist, but I didn't know what I was going to be. All I knew was, I had good ears. It

was the middle of December, 1960. John F. Kennedy had just been elected five weeks earlier, and Frederick Fennell and the Eastman Wind Ensemble were in the middle of a massive project for Mercury, recording the military music of the Civil War. It was to be a 2-LP set — one for the Union and one for the Confederacy — and it was being recorded on restored original instruments. It had required years of preparation, but now it was time to actually record it.

The Mercury truck was parked out on Swan Street, the mike lines were running into the Eastman Theatre, and as we used to say back then, it was a happening thing! There was only one problem. On the last day, Friday the 16<sup>th</sup>, they needed to record some soldiers singing a few songs like “Tenting Tonight On The Old Campground” and “Just Before the Battle, Mother” and somebody had forgotten to put together a chorus! These sessions were paying union wages to the members of the Wind Ensemble, and they were being run according to the union clock, which was running out when Fred Fennell came running out of the Eastman Theatre into the main hall, begging every person of the male persuasion he could find to please, please come in to the Theatre and sing in the campfire chorus. “I can’t pay you,” he said, “But I’ll get you a copy of the records when they come out.” He collared me, and I came.

Our little campfire chorus started singing “The Battle Hymn of the Republic”, and it seemed to be going well enough, when suddenly a woman’s voice came booming out over a loudspeaker on the stage. “Fred, there was an intonation problem in bar 33. Can you go back and pick it up from 24?” It was Wilma Cozart, the producer, sitting in the Mercury truck out on Swan Street beside her husband, Robert Fine, who was Mercury’s chief engineer. And she was telling the great Frederick Fennell what to do? I thought, hey, I heard the bad intonation too, but now, here is somebody whose job is to hear it and see that it gets fixed. I can do that, I thought! And I like to tell people what to do too! From that moment on, as far as I was concerned, it was just a question of how and when.



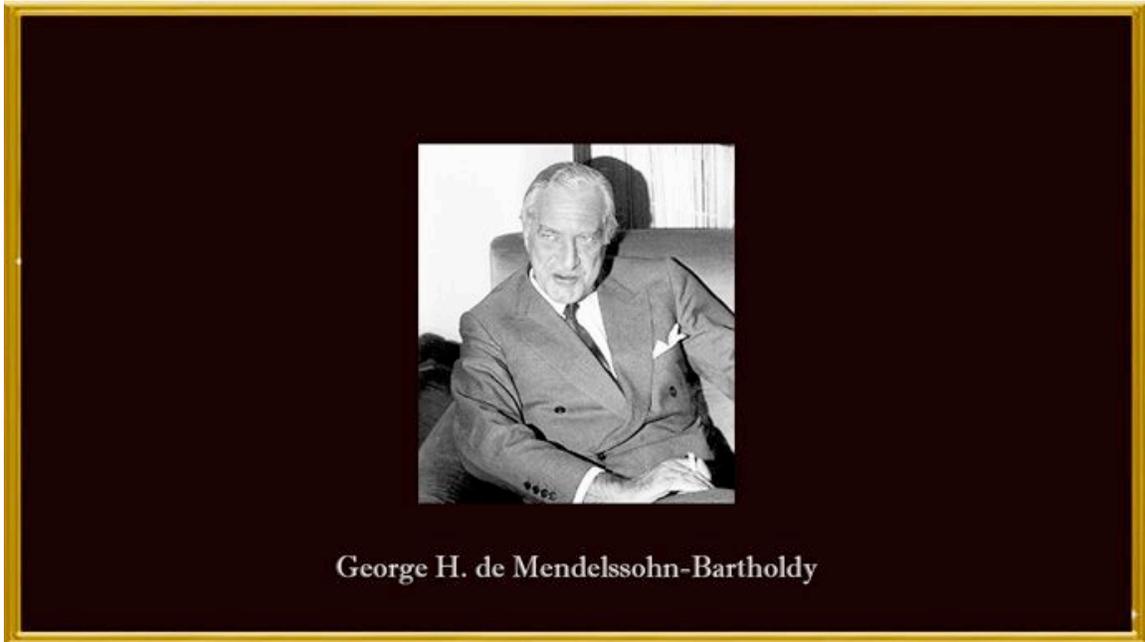


After I graduated from Eastman in 1963, I became manager of Rochester’s new classical music radio station, WBBF-FM, and one day early in 1964, we had a visit from the Eastern Sales Manager for Angel Records. He was promoting Angel’s new release of the complete Beethoven Sonatas with Arthur Schnabel. His name was Earl Price, and guess what? — he was an Eastman graduate too, a clarinetist. I told him about my ambition, and he said, okay, why don’t you come down to the City and I’ll introduce you to some people in the business.

I went, he introduced me to executives at Angel-EMI where he worked, Columbia, RCA and a couple smaller labels, and the next thing I knew, I had a job as an assistant producer, quality control manager and all-purpose minion at Vox Records.



Vox wasn't one of the big six, but it was a very active producer in the classical field. It was owned and run by a very elegant and cultured Hungarian man who went by the name of George H. de Mendelssohn-Bartholdy. It took a little practice for me to wrap my tongue around that name, but listen, he claimed to be related to Felix Mendelssohn-Bartholdy, and he was going to open the door to my chosen career, so I wasn't complaining.



I spent my first two weeks at Vox posting LP inventory figures in ledger books and wondering when I would get to produce my first recording session, when payday came — Friday afternoon — and the office manager came over and dropped a check in front of me. Okay, it said Vox Productions on top, and the amount to the right of the dollar sign was correct, but when my eyes dropped to the signature line, this is what I saw:



My heart stopped. I kept staring at it, but no matter how many times I blinked, it still said the same thing:

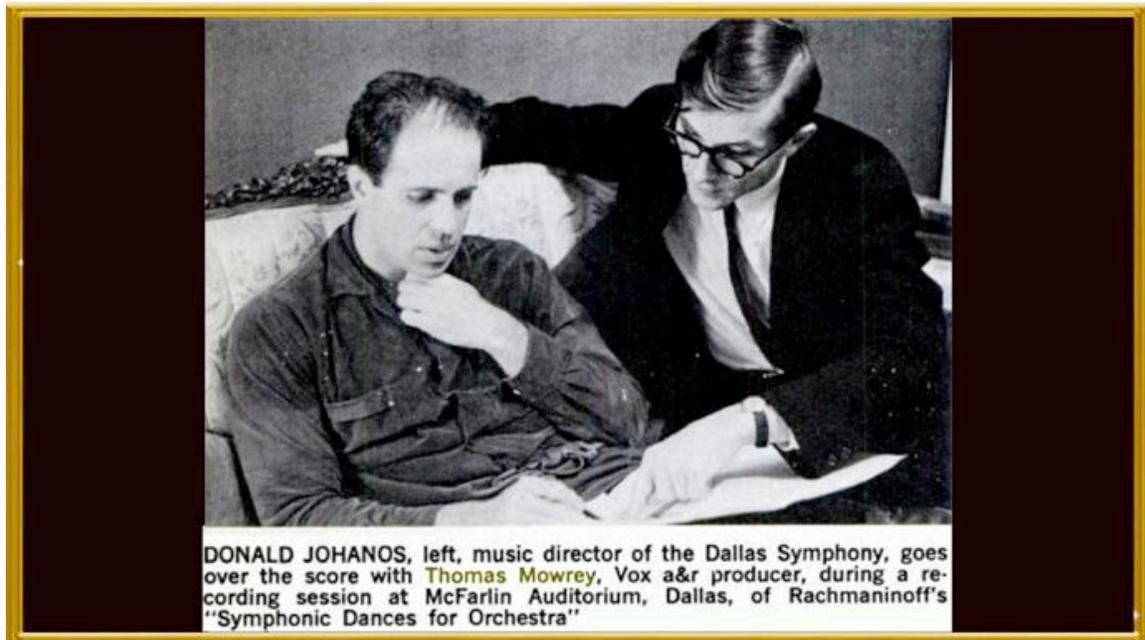
**Sorry, Just a Misunderstanding**

That's it, I thought. I've blown it. My career as a record producer is over before it got started. I've just moved to New York, and this whole thing has been just a misunderstanding, for which Vox is now apologizing. I pointed to the signature line and asked the office manager if this was their way of telling me that I was being fired.

No, he said. That's the boss's signature!

**George Mendelssohn-Bartholdy**

Next thing I knew, M. de Mendelssohn-Bartholdy was sending me off to produce my first orchestral record — Rachmaninoff's Symphonic Dances with the Dallas Symphony, conducted by yet another Eastman Rochester graduate, Donald Johanos.



My engineer for that was David Hancock, an audio purist of the highest order. We used four custom-made ribbon microphones instead of condensers, and there were no transistors anywhere in the recording chain. Just nice, hot, glowing vacuum tubes. I even remember what the smelled like. And to minimize tape hiss, we ran the tape at 30 inches-per-second instead of 15, which was the industry standard at that time.

But now let me tell you something about tape hiss. If you're under the age of 50, you may never have heard it. Tape hiss was the lower floor of the dynamic range in analog magnetic tape recording, below which the music was masked by a soft, steady ssshhhhh sound. Recording levels of a pianississimo tremolo in the strings always had to be set slightly higher than that. The trouble was that when the recording levels were set just above the tape noise floor, the combination of fortississimo brass and percussion that came piling in two bars later might overload the tape at the upper end and create audible, crackling distortion. It was a big problem. The analog tape medium needed an expanded dynamic range, and as it happens, it was about ready to get one.

Around that time there was an American engineer and physicist by the name of Ray Dolby living in London. One day in 1966, he came over to New York and walked into a recording session that I was producing in the ballroom of the Great Northern Hotel on West 56<sup>th</sup> Street. He told my engineer George Piros and me that he had a tape noise reduction circuit in the gray metal box he was carrying and he asked if we would mind plugging it into the recording chain on our backup machine. He seemed nice enough, so we said, sure, go ahead.

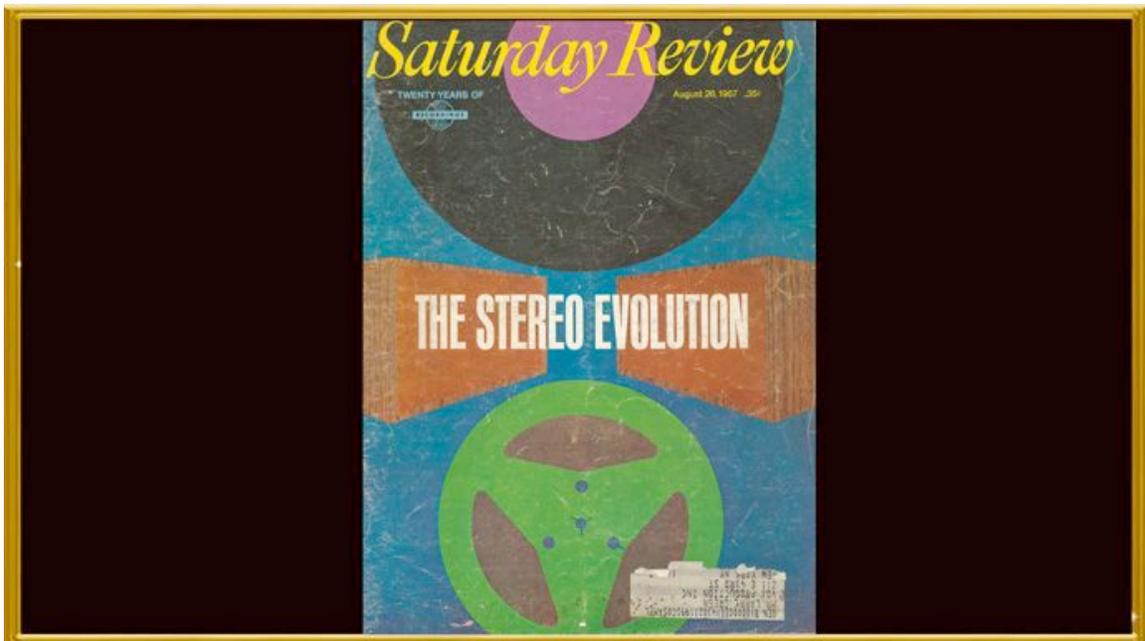
About an hour into the session Dolby handed George some headphones connected to the backup machine. George listened for a few minutes, and then he handed the phones to me. I listened for a minute or so, thinking that I was hearing the mike inputs, before tape, and then I told George to Switch to tape playback. George said, "That is tape

playback.” I was astonished. No audible tape hiss. Dolby’s circuit reduced it by 10 decibels.



During the following few days, I introduced Ray to some of my colleague producers at other classical labels, and everyone in the business got excited about it overnight. Ray Dolby’s tape noise reduction circuit was almost as revolutionary in professional recording as the introduction of the LP had been in home audio. Within a couple years, every significant record company and broadcaster in the world had adopted it. I’ll get back to Ray in a minute.

In August of ‘67, Saturday Review Magazine devoted a whole issue to what it called The Stereo Evolution.



One of the articles in this issue was called The Record Makers, and it featured profiles and photographs of about 25 of the most prominent classical producers in the English and American companies at that time. Even though I was still working at Vox and had only been producing for about three years, I somehow made the cut — that's me in the center. Another Rochester graduate, Howard Scott at RCA Victor, is profiled just to my right.



In the lower left corner you see John Culshaw, the renowned Decca producer who masterminded the recording of the Wagner Ring Cycle in Vienna with Georg Solti. It probably constitutes the greatest operatic recording project in history.

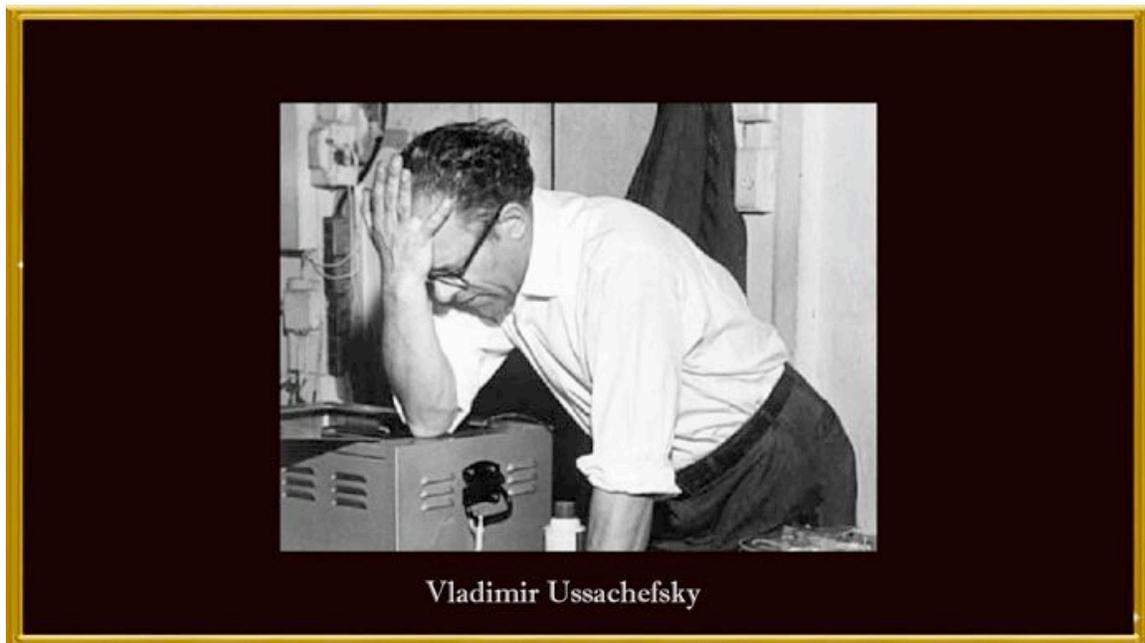
The great producers at Columbia Records during this period were Tom Frost, on the left bottom of the page, and John McClure, center bottom. McClure was chief of artists and repertory at Columbia in the sixties, and among other things, produced the complete works of Stravinsky and almost all of Leonard Bernstein's recordings. Frost had many great achievements, including producing around 300 spectacular sounding recordings with Eugene Ormandy and the Philadelphia Orchestra and most of Vladimir Horowitz's recordings. Some of the other most prominent names in that group include

- Jack Pfeiffer, Dick Mohr, and Max Wilcox at RCA,
- Tom Shepard, Paul Myers and Andy Kazdin at Columbia,
- Ray Minshull and Erik Smith at British Decca, where Ray was my boss a few years later,
- Is Horowitz at American Decca, and, of course,
- Seymour and Maynard Solomon, the brothers who owned Vanguard. Seymour produced the classical catalog, and even though Maynard was a renowned Beethoven biographer, he produced their folk artists, including Joan Baez.

You may have noticed that there are no producers for EMI or Philips shown on that page, but you have to remember that this was only 22 years after the end of World War II, and even though the Boeing 707 had been around for a while, Europe was still thought of as kind of distant.

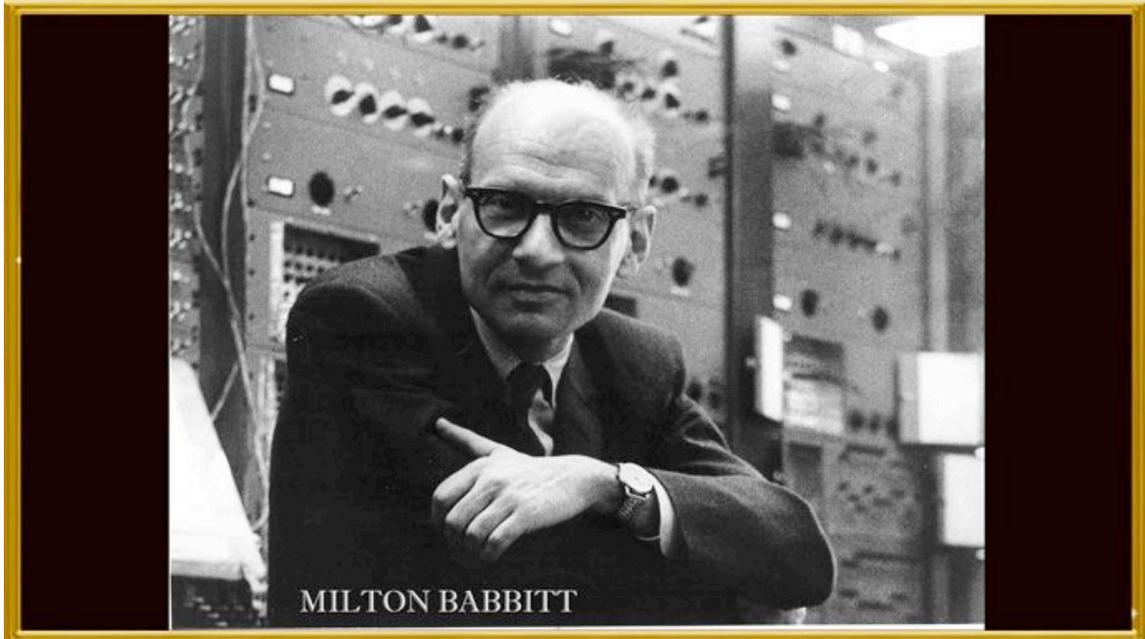


And there is no producer for Deutsche Grammophon there. Because I spent the most important part of my career as a record producer there, I'm going to tell you more about it in a couple minutes, but first I want to tell you about two other significant developments in sound recording and reproduction in which I had the opportunity to participate before I started at DG. The first of these involves yet another Rochester graduate, who was a pioneer in electronic music. His name was Vladimir Ussachefsky. Here he is, looking every bit the mad scientist.

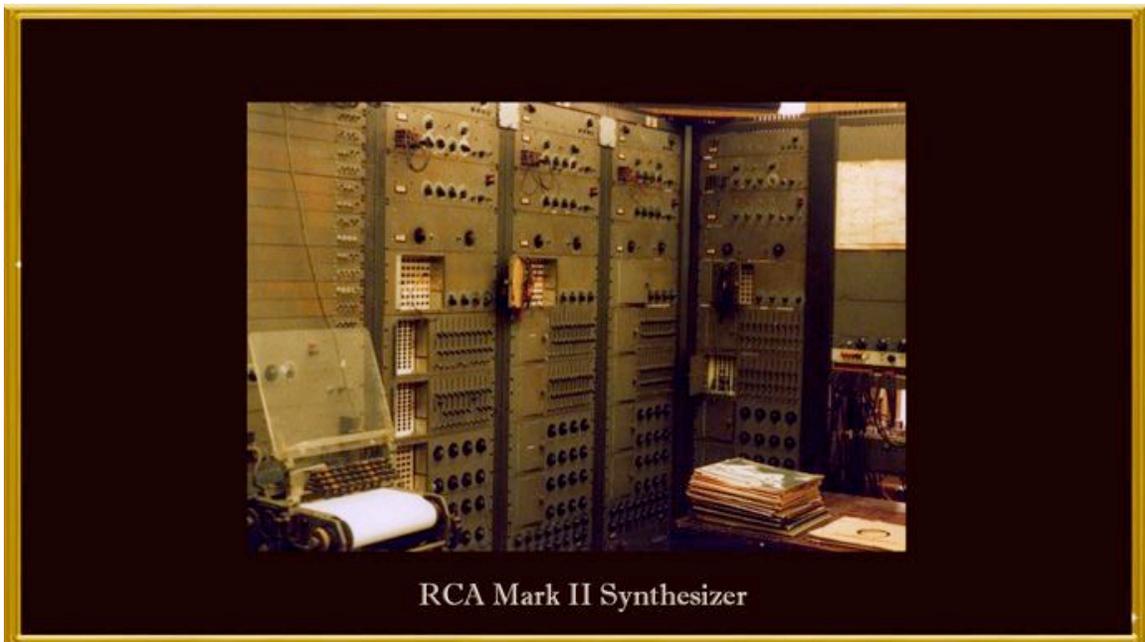


He got a Master's in Music at Eastman in 1936 and his Ph.D. here in 1939. In the late 1950s, he and Otto Luening co-founded the Columbia-Princeton Electronic Music

Center at Columbia University in New York. They were joined there by the Princeton-based composer and mathematician, Milton Babbitt.

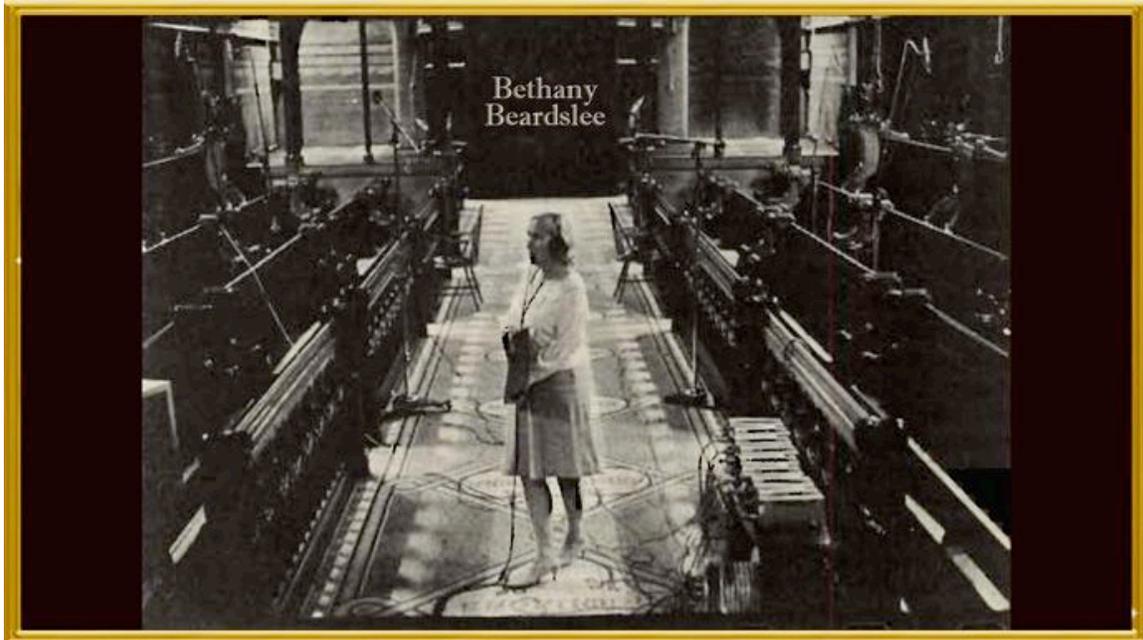


Babbitt had worked with Ussachefsky on the development of the world's first programmable electronic sound synthesizer, the RCA Mark II, which had been installed in its own room at Columbia.



I went to see Ussachefsky and his creation in 1969. I remember him to be a gracious, courtly gentleman, and I remember that his invention was a great, hot, huffing, puffing thing — but it was no joke. It was primitive by today's standards, but the fact is

that the work Ussachefsky and Babbitt did with the Mark II actually established the foundations which led to the development of modern synthesizers — in particular, the ADSR (Attack, Decay, Sustain, Release) envelope specified by Ussachefsky. He was a true pioneer, and I guarantee you that his footprints will still be found in the millions of dollars worth of advanced digital equipment that are being installed over in Ronald Rettner Hall. Shortly after I visited Ussachefsky I met Babbitt and was asked to produce a recording of his composition called “Philomel”, for the Mark II Synthesizer with the live and recorded voices of the soprano, Bethany Beardslee.



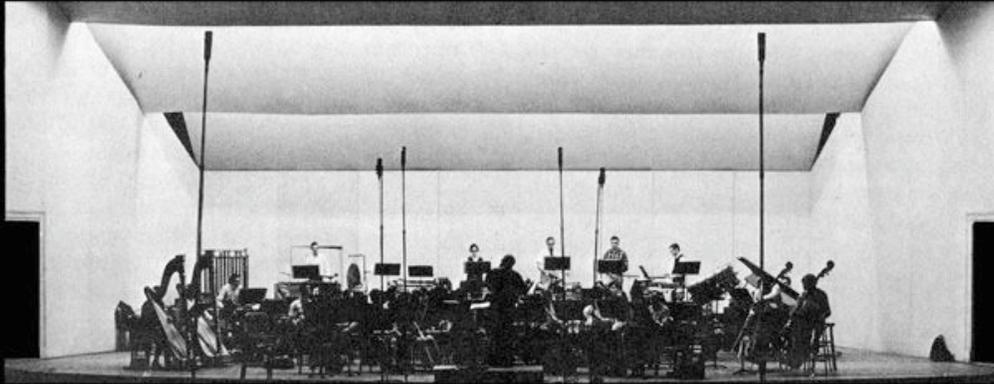
Here she is during the recording sessions at a church in downtown Manhattan during the fall of 1969, listening to the pre-recorded Mark II synthesizer on headphones, and singing along with it and her own pre-recorded, manipulated voice. Milton Babbitt was there at the sessions with me and my engineer, Marc Aubort.

The recording was released in 1970. Thirty years later, in 2002, the Library of Congress established something called The National Recording Registry, for honoring and preserving the most significant sound recordings in history. The first 50 recordings to be so honored included the Edison cylinders, Enrico Caruso, George Gershwin, T.S. Eliot, Dwight Eisenhower, Elvis Presley, Frank Sinatra and Bethany Beardslee’s recording of Milton Babbitt’s Philomel, thanks to the pioneering work of Rochester graduate, Vladimir Ussachefsky.

The other sonic development that I mentioned a moment ago had to do with Surround Sound recordings. In 1968 I had been discussing the idea of doing some experimental surround recordings with Robert Berkovitz at Acoustic Research in Cambridge, and in 1969 I approached Donald Hunsberger, the Eastman Wind Ensemble conductor who had replaced Fred Fennell, to see whether he was interested in participating. He was, so we reserved the Wind Ensemble and Eastman Theatre for a couple days of Surround Sound experimentation that spring.

A few words about what Surround Sound actually is: In their simplest form, normal, two-channel stereo recordings produce the illusion of depth and width across a 180-degree arc in front of the listener by a combination of variable intensity and arrival time at two spaced microphones placed at the stage proscenium in front of the musicians. With Surround Sound, the objective is to create a 360-degree sound field by augmenting that pair of stereo microphones with additional mikes angled toward the sides and rear of the auditorium, as you see here, and feeding the signals from them into at least two additional loudspeakers, placed at both sides, behind the listener.

#### Surround Sound Recording Experiment with Eastman Wind Ensemble, 1969



*The microphone setup at the Eastman Theater during a recent recording session illustrates one method of capturing four-channel sound. The four microphones in the center pick up the group much as they might for conventional stereo, with two mikes on each channel to broaden the coverage. The nearer mikes at the sides are aimed away from the musicians to pick up reverberation from the auditorium.*

#### Surround Sound Recording Experiment Control Room at Eastman, 1969



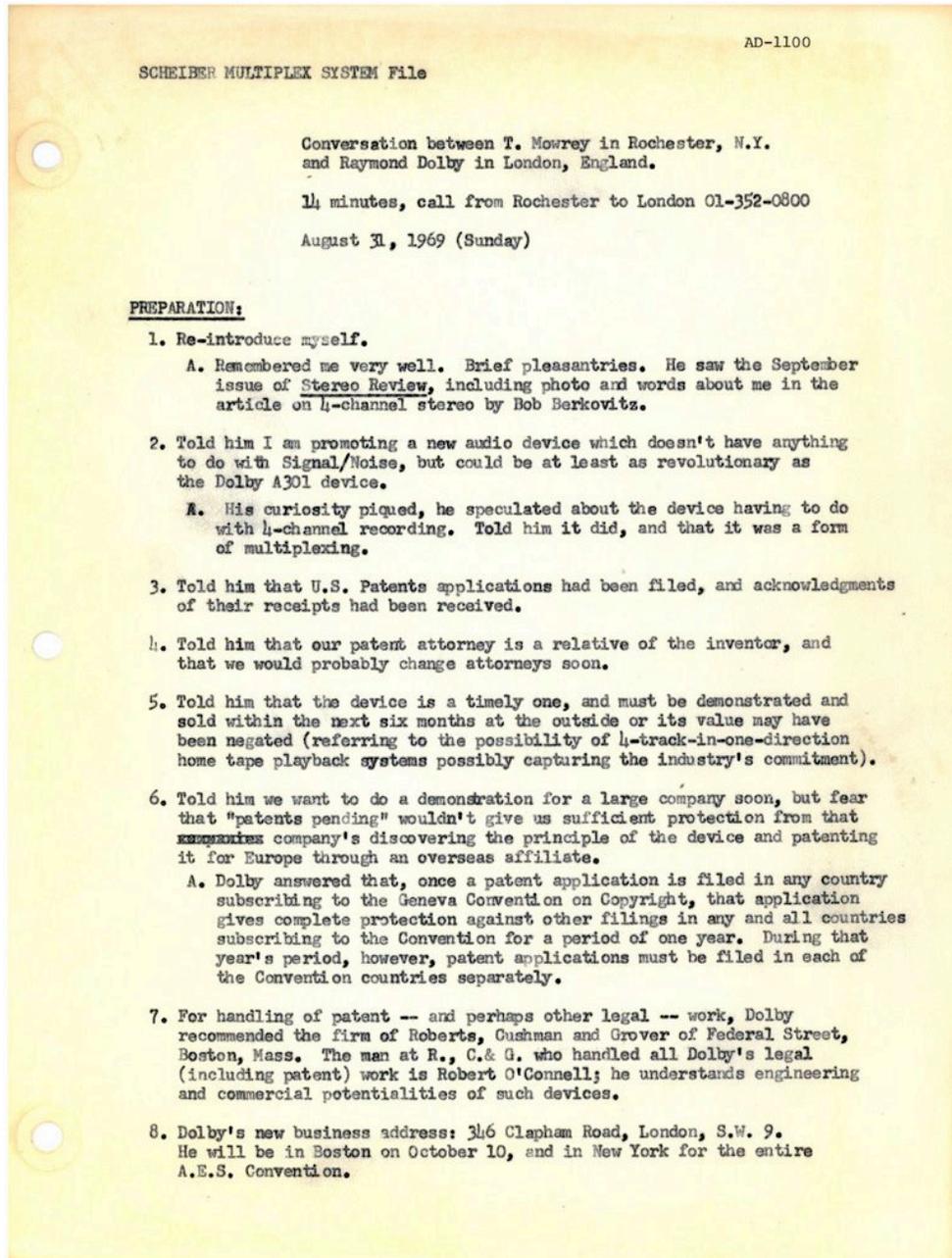
*Thomas W. Mowrey, producer of the Eastman recording session, listens to the four-channel playback from the spacious control room's tape recorder at the left. He hears the main orchestra pickup coming from the far pair of speaker systems, in front of him. The reverberation tracks reach him from behind, emanating from the two speakers shown in the foreground.*

So with at least four microphones placed in a rectangular pattern, feeding four similarly placed loudspeakers, the listener is surrounded by sound which is both

correlated and phase-intensity differentiated, and the effect is heightened realism. Incidentally, that's me standing there in the Eastman control room 44 years ago, listening to our Surround Sound sessions with the Eastman Wind Ensemble.

Shortly after these sessions, on August 29, 1969, I met a man named Peter Scheiber who said he had invented a system for putting Surround Sound on an otherwise conventional stereo LP or any other two-channel audio medium. Peter demonstrated his invention for me at my house in Rochester the next day, and I was convinced that even though it wasn't yet perfected, it would become extremely important and valuable.

That was Labor Day weekend 44 years ago. On that Saturday, Peter and I formed a company to exploit his invention, and on Sunday, I called Ray Dolby in London to ask for advice on legal and marketing questions. These are my notes of that conversation.



Ray was extremely interested and had a number of recommendations regarding development and patenting, and he followed up on those with this letter to me a couple days later.

DOLBY  
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346 Clapham Road London SW9  
tel 01-720 1111  
cables Dolbylabs London

3rd September 1969

Mr. Thomas Mowrey  
Eastman School of Music  
Rochester  
New York  
U. S. A.

Dear Tom,

In connection with your scheme for 4-channel stereo on discs, the thought has struck me that you might appreciate being put into contact with a newly formed organization which I think has the enthusiasm and capability of doing something about the matter. The organization was formed by Henry Kloss who, as you may know, also founded both AR and KLH. About 2 years ago he sold his interest in KLH and set up Advent Corporation which is now manufacturing the mechanism for the KLH Model 40. Henry Kloss is a very enthusiastic and imaginative person, and I am sure that, at least, you should have a talk with him. The address and phone number are: 377 Putnam, Cambridge, Mass. Tel: 868 2040.

Alternatively, I wonder whether you have considered coming to an arrangement with AR particularly in view of the experiments which you and Bob Berkovitz did. I am frankly doubtful whether you will get very far very fast with a big organization like Columbia.

I will be at the AES Convention as usual in October; apart from this I will be going through Boston and will be seeing a number of audio people there. Do you want me to keep quiet about this development?

If you are coming down to the AES please look me up.

Best regards,

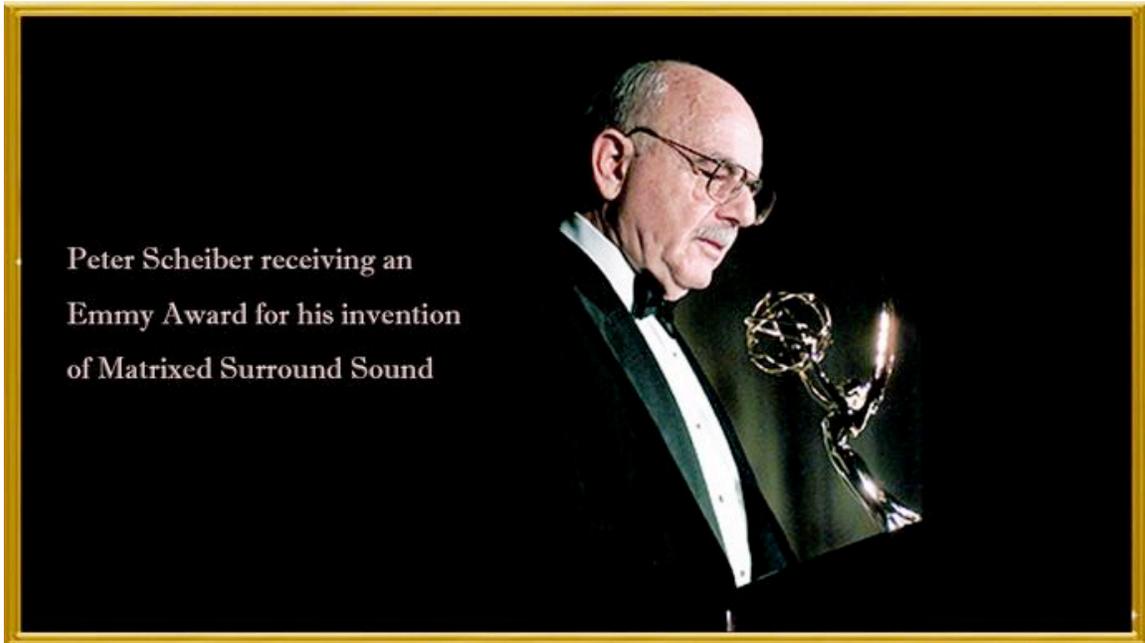
Ray Dolby

RMD:ab

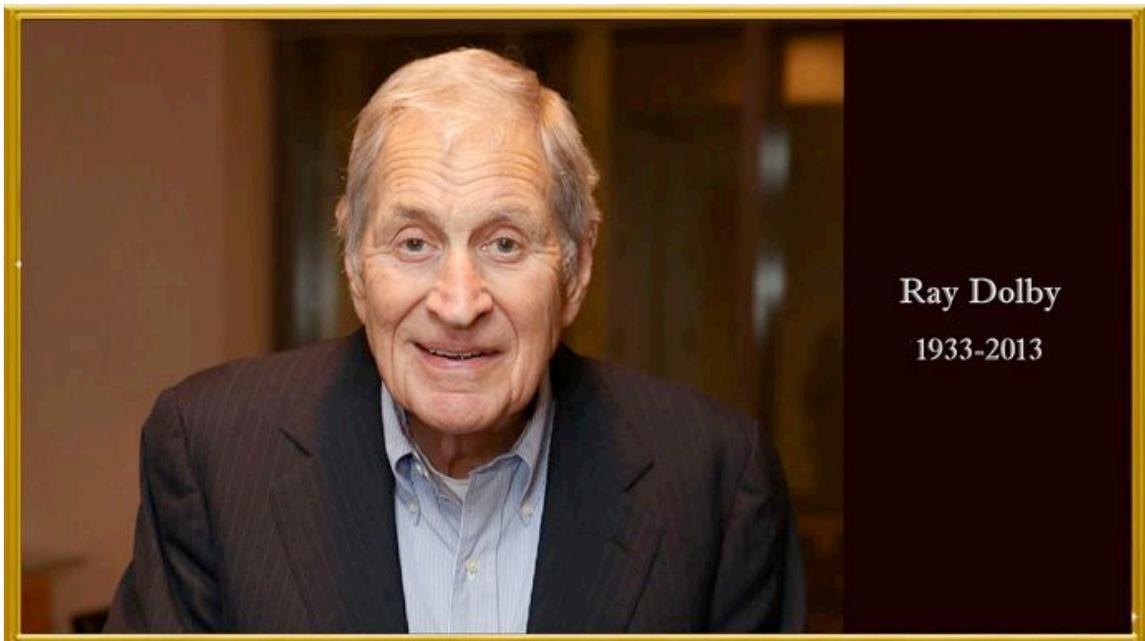
Dolby Laboratories Inc.  
incorporated in the State of New York  
directors (USA): Dr. R. M. Dolby, D. E. Laitman, E. Rosenthal

New York office  
333 Avenue of the Americas New York NY 10014  
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Surround sound on LP discs had a short and ultimately unsuccessful life, but a few years later, Ray Dolby put Peter Scheiber's circuit into sound systems that he sold to the movie studios and cinema exhibition chains, where it was marketed as "Dolby Stereo" with enormous success. This gave rise to some patent infringement lawsuits, but they were eventually resolved, and the end result is that for many years now, Dolby Surround Sound has been the de facto Surround Sound standard in both movie and home theatres. That revolution was founded on Peter Scheiber's invention and sparked by my telephone call to Ray Dolby from right here in Rochester, 44 years and two weeks ago.



But there's a cautionary tale here: Peter invented the gadget, but Ray took it and ran with it. He knew how to market it. Peter got an Emmy, but Ray got one of those and



an Oscar too, not to mention a fortune approaching two-and-a-half billion dollars. His name is a household word — at least in houses where people listen to music. He was named to the Most Excellent Order of the British Empire by Queen Elizabeth in 1987 and awarded the National Medal of Technology and Innovation by President Clinton in 1997. He was also said to have been a generous and thoughtful philanthropist. He died two days ago at the age of 80.



I want to return to the slide showing the six major labels again, because they did more than half of the heavy lifting during the Golden Age. During the time period we’re discussing, from 1950 to 1990, each of these labels was releasing from 100 to 150 full-price records per year. Average that at 125 per label per year, do the math and you’ll see that these six major labels released about 30,000 of the 50,000 classical LPs downtown in the Sibley Music Library — about 60%. It is not incidental that each of these record labels was owned by a parent company whose main business was electronics or broadcasting or both.

For the first two decades of the “Golden Age” — the 1950s and much of the 60s — the classical music record markets were geographically dominated. This is not to say that RCA and Columbia didn’t sell some records in England and Europe, or that EMI, Decca, Philips and Deutsche Grammophon didn’t peddle their wares here. They did in both cases, but they weren’t as successful abroad as they were locally, for a variety of reasons.

In the late 60s, though, Deutsche Grammophon decided to make a major move on the American market. The label had enjoyed excellent sales in Europe as a result of its reputation for the highest artistic and technical standards, but its almost exclusively European artists’ roster and maybe some lingering memories of World War II had prevented the wide acceptance of DG recordings in America. The company’s top management wanted this to be turned around.



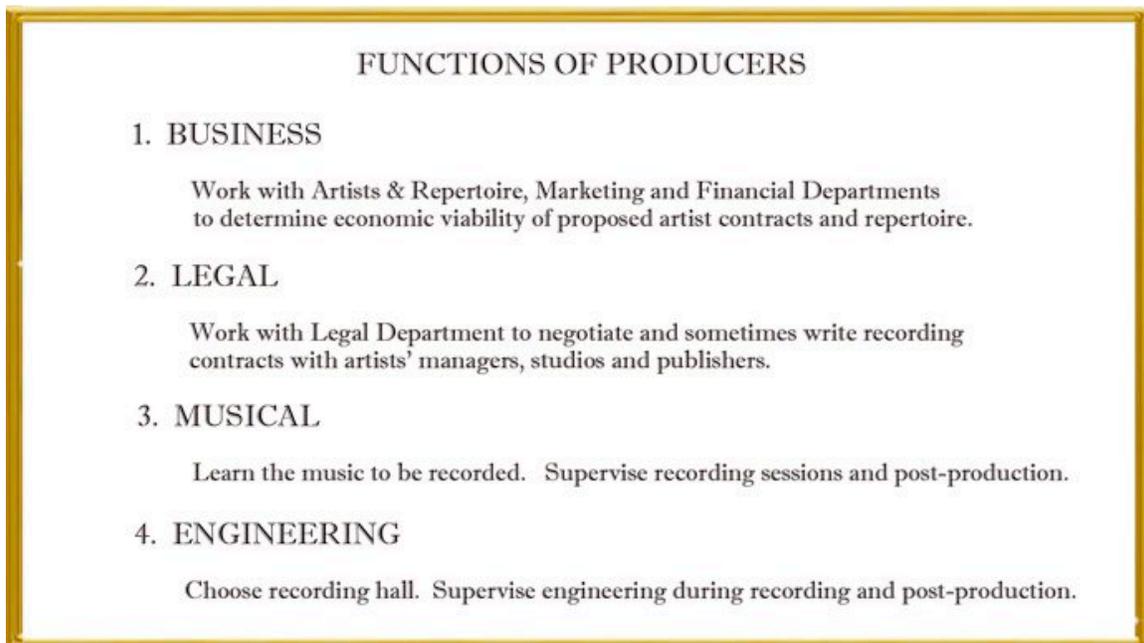
Their first order of business was to establish a wholly-owned American pop music subsidiary, which they did in early in 1969. It was called Polydor Incorporated. They got the Bee-Gees, the Osmonds and pretty soon they signed the hardest-working man in show business, James Brown. I could tell you a story about that signing that would leave your jaw on the floor, but that will have to wait for another time. Then, DG management decided to start signing American classical artists too, and since RCA's contract with the Boston Symphony and Boston Pops was about to expire, they were the first target.



I had had a young German colleague at Vox named Guenter Hensler, but he had returned to Germany in 1968 and went to work for DG. So one day in October of 1969, while I was still involved in the Surround Sound business, I had a telephone call from

Guenter. He told me that DG was negotiating with the Boston Symphony, but they decided they needed an American producer to help with the negotiations and then produce the records, and, well, might I be interested?

Was I ever. I was hired on the first of November, and within a week I was over in Hamburg, getting a total immersion in the company itself as well as the contract negotiations in progress with the Boston Symphony. The week after that I was in Boston with my new boss, his boss, DG's chief counsel and DG's American lawyers for meetings with Boston Symphony management and their attorneys. After a day or two's meetings, the Germans went home and left it in our hands, and within a few weeks we had signed a five-year contract for 50 records with the Boston Symphony and Boston Pops. I produced almost all of them, but what does that mean? In other words, what does a producer actually do? There are four functions:



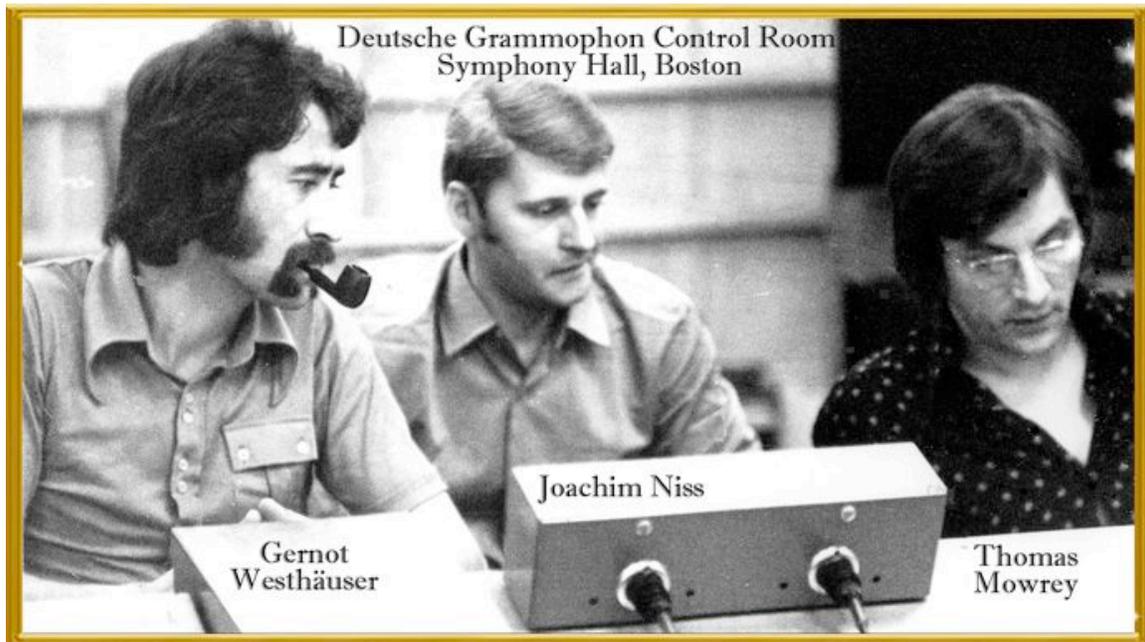
In all of the big six companies, some producers would do all four, while others would narrow it down to only one or some combination of less than all four. I was both an executive producer and a studio producer, so my job involved working with the rest of the Artists & Repertoire department and the Marketing and Financial Departments to determine economic viability of proposed artist contracts and repertoire, working with legal to negotiate and sometimes write contracts, learning the music and then musically supervising the recording sessions, and supervising the engineers during recording, editing and mixing.

As soon as the Boston contract was signed, Deutsche Grammophon built a dedicated control room in the basement of Symphony Hall in Boston. It was opened in March of 1970 during a recording of Smetana's "Ma Vlast" with Rafael Kubelik, who was one of DG's top conductors at the time, and we had the record and audio press there as well. This photo shows DG's top engineering vice-president, Peter Burkowitz, explaining the new console that had just been installed there. The room was designed for surround sound recording, and in fact, every record that DG produced during this period was made in surround.



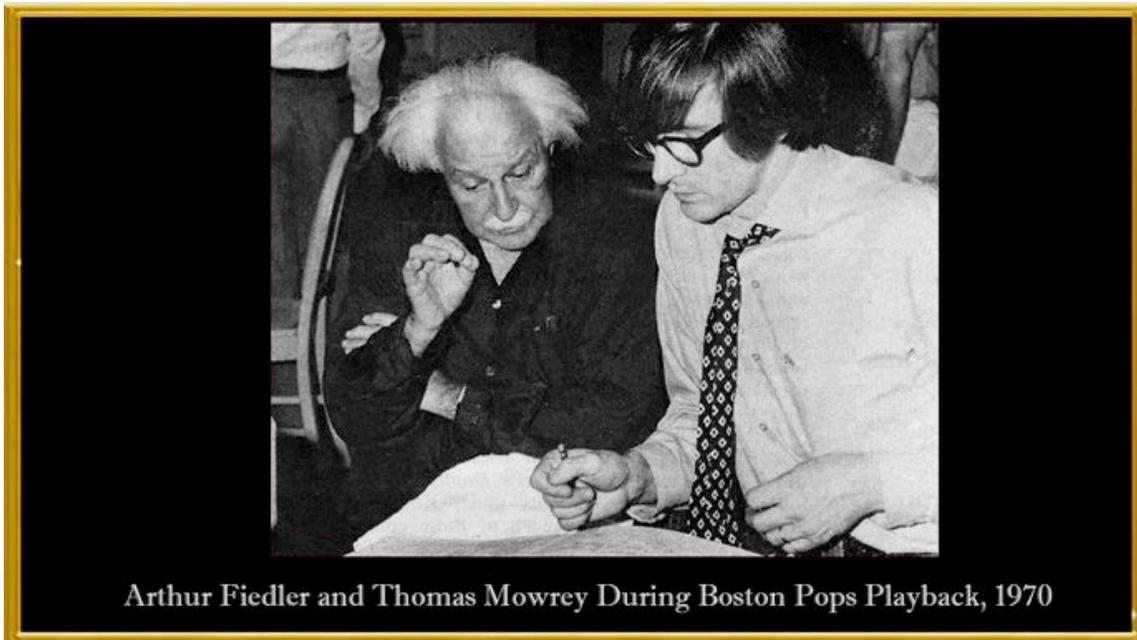
Peter Burkowitz.  
 DG Engineering  
 Vice-President,  
 Demonstrates  
 New Console to  
 Press in DG's  
 Control Room at  
 Symphony Hall,  
 Boston.  
 March, 1971.

This photo shows me at work in that room with two wonderfully talented young Deutsche Grammophon engineers, Gernot Westhäuser and Joachim Niss.

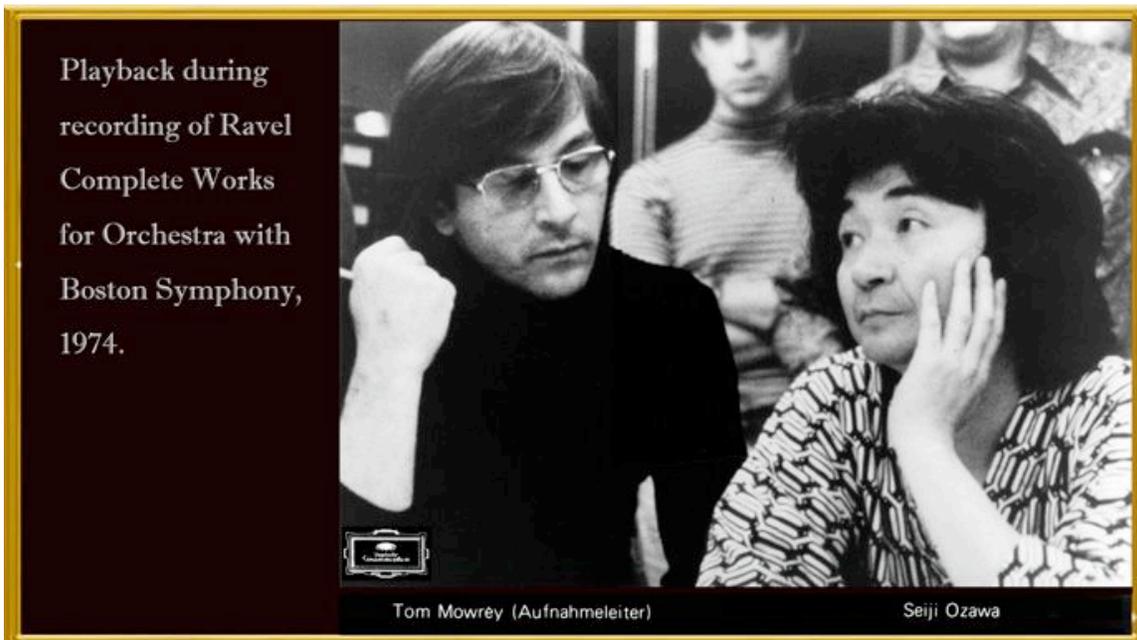


The first three Boston Symphony records that I produced there were with William Steinberg, a marvelous conductor who had taken over from Erich Leinsdorf.

Not long after that I started producing what eventually became a series of 25 LPs with Arthur Fiedler and the Boston Pops. Here we are listening to a playback in 1970.

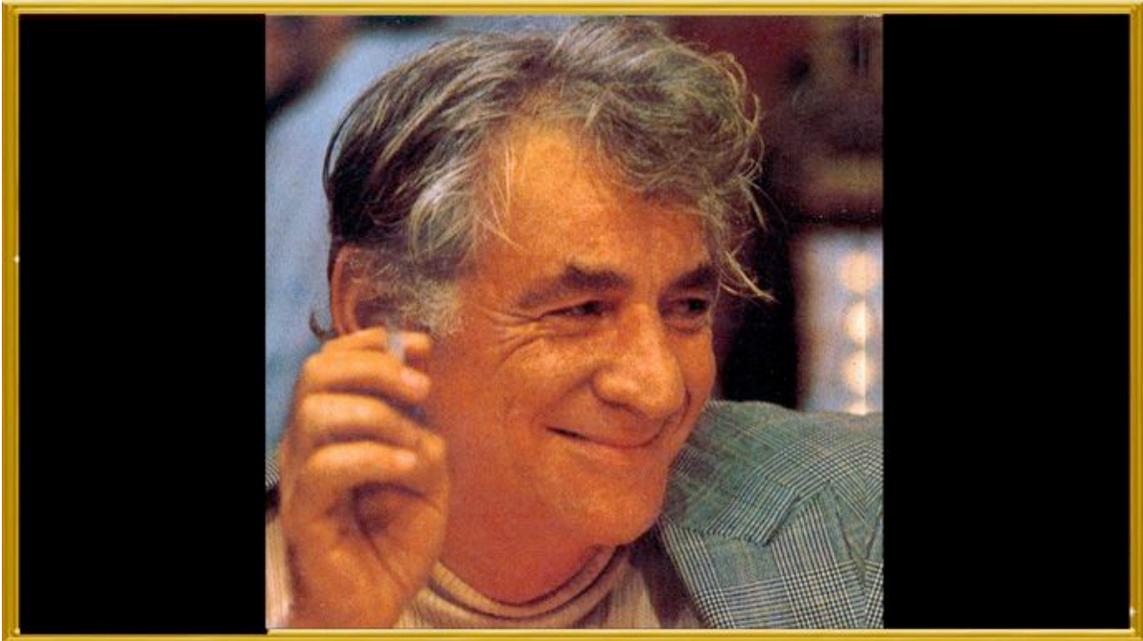


He had a reputation for being somewhat irascible, but I found him to be a warm and generous man. I loved him, and I daresay the feeling was mutual. He might not have been the conductor you would go to if you wanted someone to plumb the depths of despair in a Mahler Symphony, but in his repertoire, he was peerless. His hero? Arturo Toscanini. He knew Toscanini, and in fact, Toscanini had given Arthur a gold medallion with his image on it and a personal inscription on the back. Arthur showed it to me once. He always wore it on a chain around his neck. It went to Arthur's daughter Johanna when he died. She showed it to me again not long ago, just before she herself died.

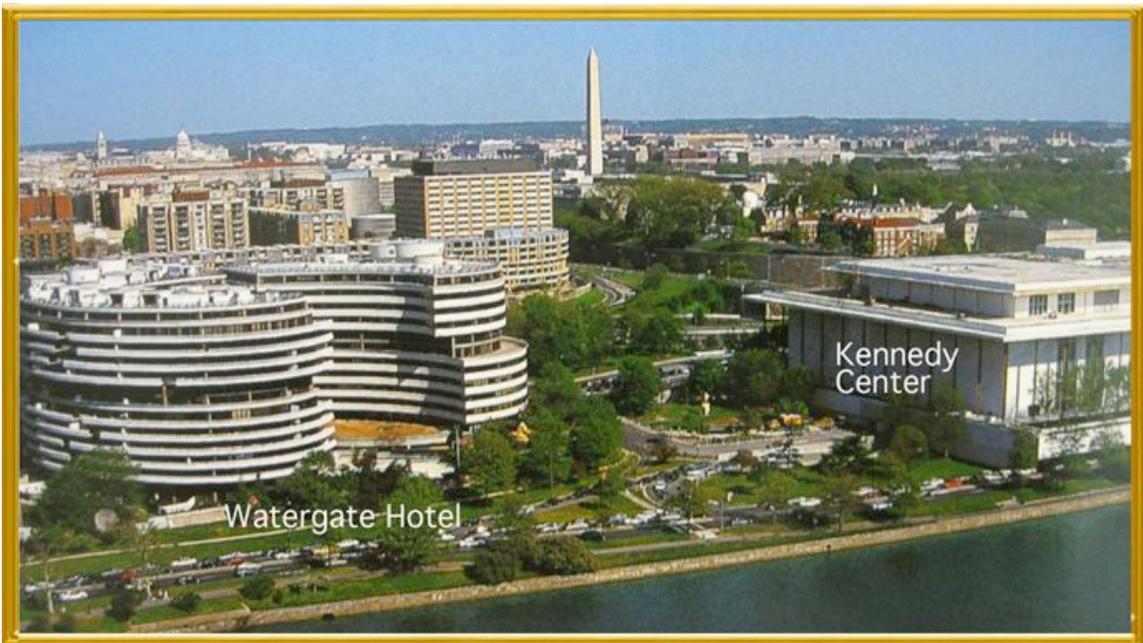


When William Steinberg had to leave the BSO because of his health, Seiji Ozawa took over as Music Director, and I think I must have produced about 20 records with him.

After the Boston Symphony and Boston Pops recording programs had been well launched, DG set its sights on the big prize — Leonard Bernstein. DG had had an exclusive recording contract with Herbert von Karajan for a couple decades, but even though Karajan had sold scores of millions of records for them, he was difficult to deal with. DG wanted Lenny, and it became my job to help land him.



Bernstein had been exclusive with Columbia ever since Goddard Lieberson signed him back in the 1950s, but now in 1972, he was scheduled to open the Metropolitan Opera's fall season conducting "Carmen" with Marilyn Horne, and he wanted to record it, but Columbia was balking at the \$250,000 recording cost.



That was DG's chance to get Lenny out of his exclusive contract, so my boss, Hans Hirsch, came over from Hamburg, and he and I went to Washington on June 17, 1972, to meet with Lenny and his lawyer and manager where they were staying at a hotel called The Watergate while Lenny was conducting his new Mass at the Kennedy Center next door.

By the time we left Washington on Sunday afternoon, we had a handshake deal for DG to record Lenny conducting the Metropolitan Opera in "Carmen" in September. I still remember picking up The New York Times on Monday and reading that there had been a little burglary at our hotel the night we stayed there.

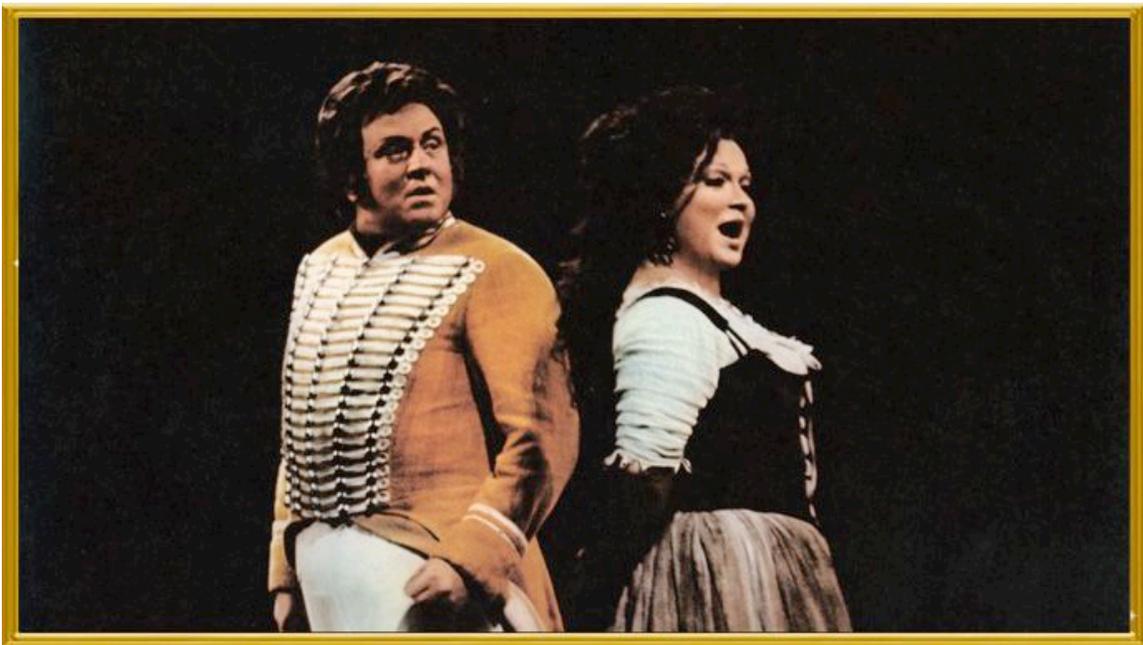


The Metropolitan opened its season with "Carmen" in September. I had studied the score all summer, met with Lenny to discuss it, listened to every recording that I could find and had gone to all the rehearsals at the Met, so I felt well prepared musically. I had negotiated the contracts with the Met and the principals, so the legal foundation was in place. DG's top balance engineer, Günter Hermanns, had come over to scout recording halls with me in July, and we had chosen the Manhattan Center on 34<sup>th</sup> Street because of its fantastically resonant acoustic. All that was left to do was to do it.

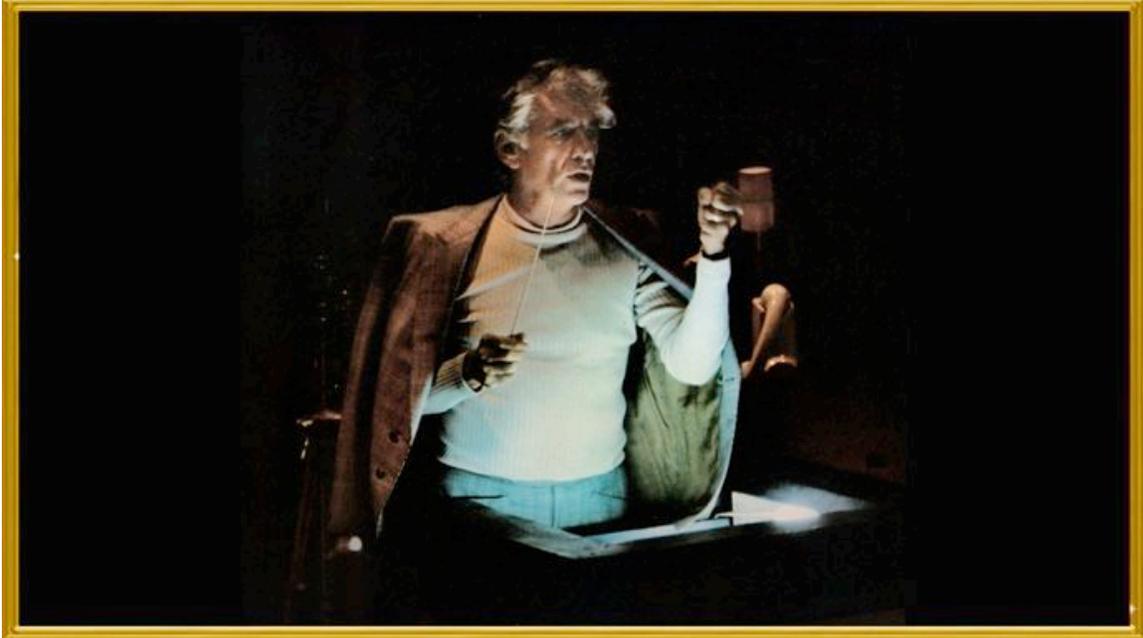
The piece was about 160 minutes long in Bernstein's performance in the house. We had scheduled ten three-hour recording sessions, starting right after opening night, so that meant we had to get about 16 minutes of finished music out of each session. The first session was with the orchestra only, and the objective was to get a clear, powerful and well-balanced orchestra sound before we started bringing in singers. It always takes some fiddling around, and this was no exception, but you rarely had to spend more than a half-hour getting the sound right. Once you did, you were off and running.



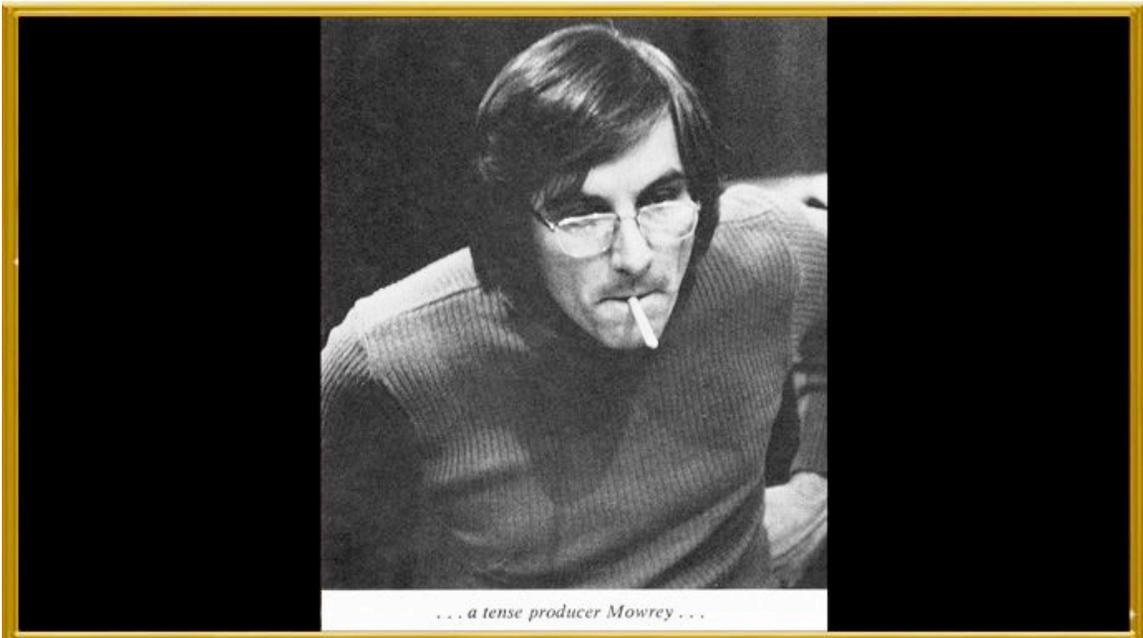
Marilyn Horne was singing Carmen, and James McCracken was Don Jose:



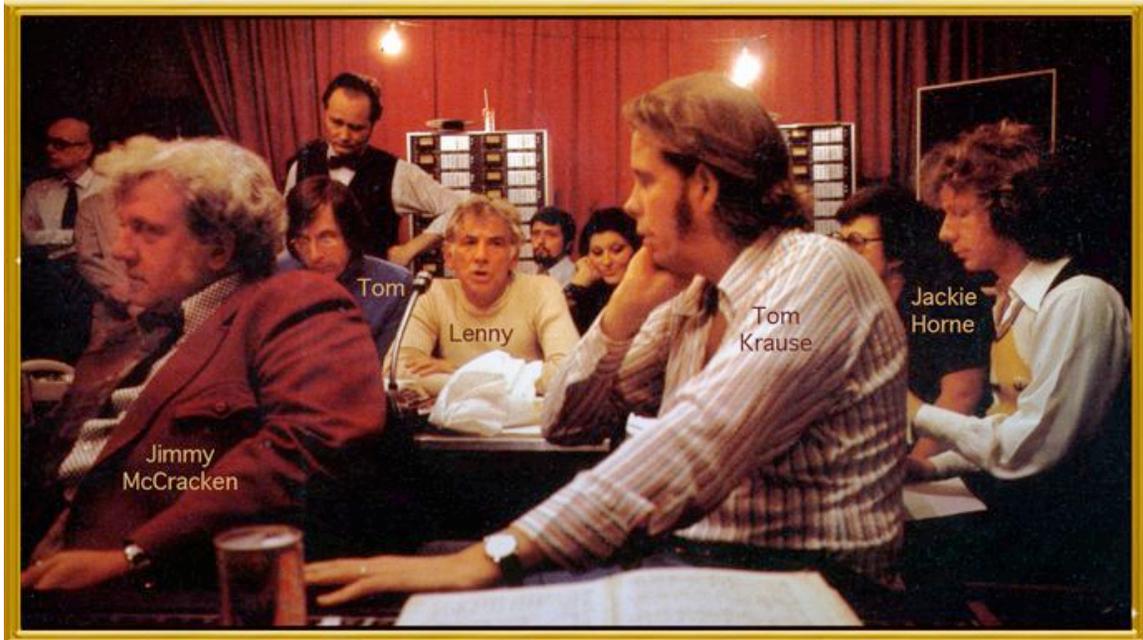
They had more to do than the other singers, but every session would have a different combination of principals and problems to deal with. The atmosphere was intense, but Bernstein must have had at least 500 recording sessions under his belt by then and he was an absolute master of the process. He had a telephone on his podium that was directly connected to mine in the control room, so even though I would announce take numbers over a loudspeaker, most of the conversations between us after finishing takes would be on that private line.



I would sit with my score during every take, making notes as fast as I could write, and then we would get on the line afterward and discuss what needed to be done again — where to start, how far to go, and what to watch out for. This thing was costing \$250,000, which was a lot of money to spend on a recording in 1972, and a lot of people had a lot riding on it — DG, Bernstein, Marilyn Horne, Jimmy McCracken, the Met, and little old me too — so I have to confess that the caption on this Opera News photo was not inaccurate. There wasn't much room for error here.



The musicians' union required us to take 20 minutes break time out of every hour, and during those breaks, Lenny and the principal singers would come up to the control room and listen to what they had just done.

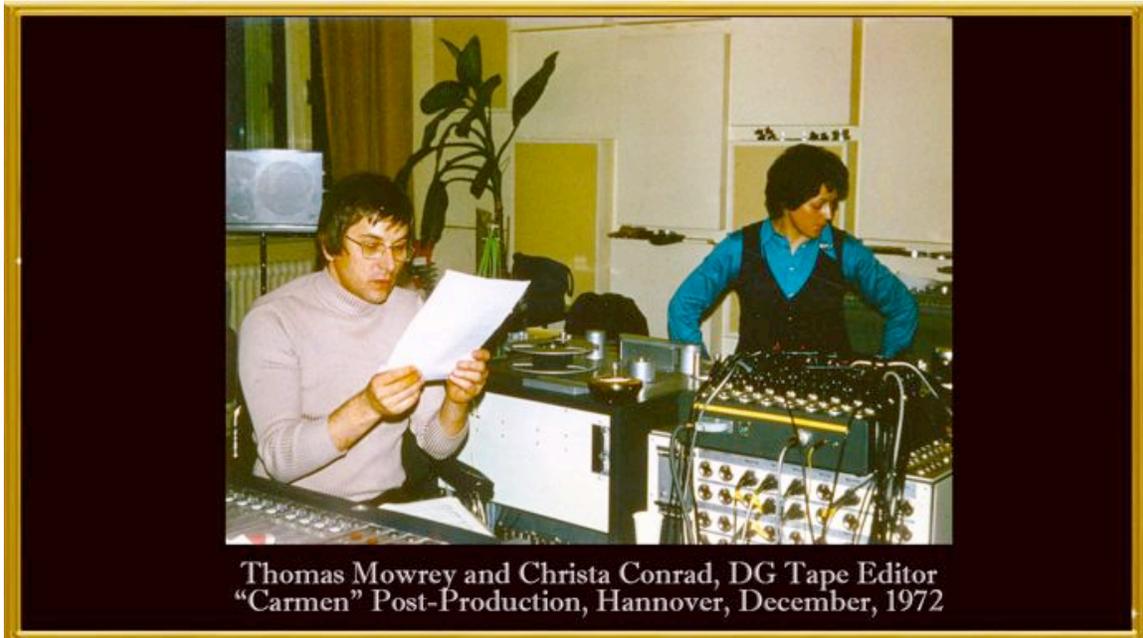


These playback sessions were focused on both performance and sound, and they were very intense. We were recording 16 tracks on two-inch tape, so we had good isolation on the principal singers and the individual sections of the orchestra that would give us enormous flexibility for optimizing the mixdowns during post-production, but still, we needed a good representative mix on the monitors during recording and these playback sessions, and Günter Hermanns delivered it.

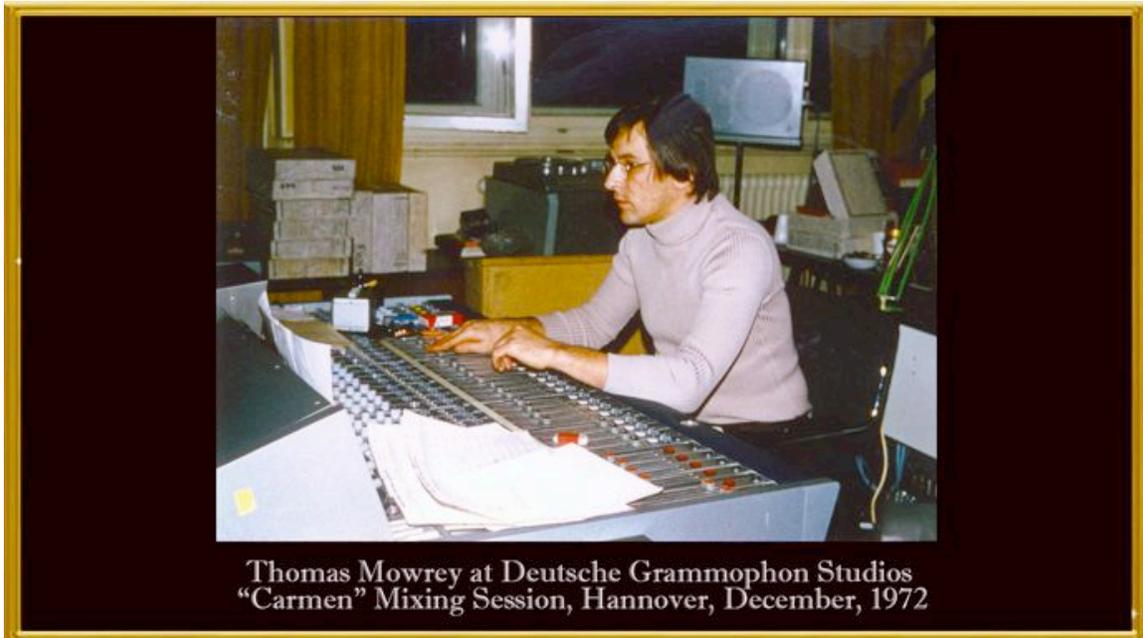


Then at the end of the session, Lenny and I would sit and review what we'd done.

Sometimes we would agree on which takes would be the basic ones for the final edit, and sometimes the expected editing would be tricky enough that he would just say something like, “You’ve got it all, just take it over there to Germany and sort it out!” The sessions ended in mid-October, and all the equipment was torn down, packed up, and shipped back to DG’s post-production studios in Hannover along with the master tapes. I followed shortly afterward. That was going to be the next job — editing and mixing.



Even before tape editing can start, however, the producer has listen to all the takes and retakes, over and over again, comparing them for accurate intonation and ensemble, but even more importantly, for beauty, power, inspiration and sometimes just sheer excitement. That’s what all of us are in this business for, and that’s what’s going on here — digging for musical gold.



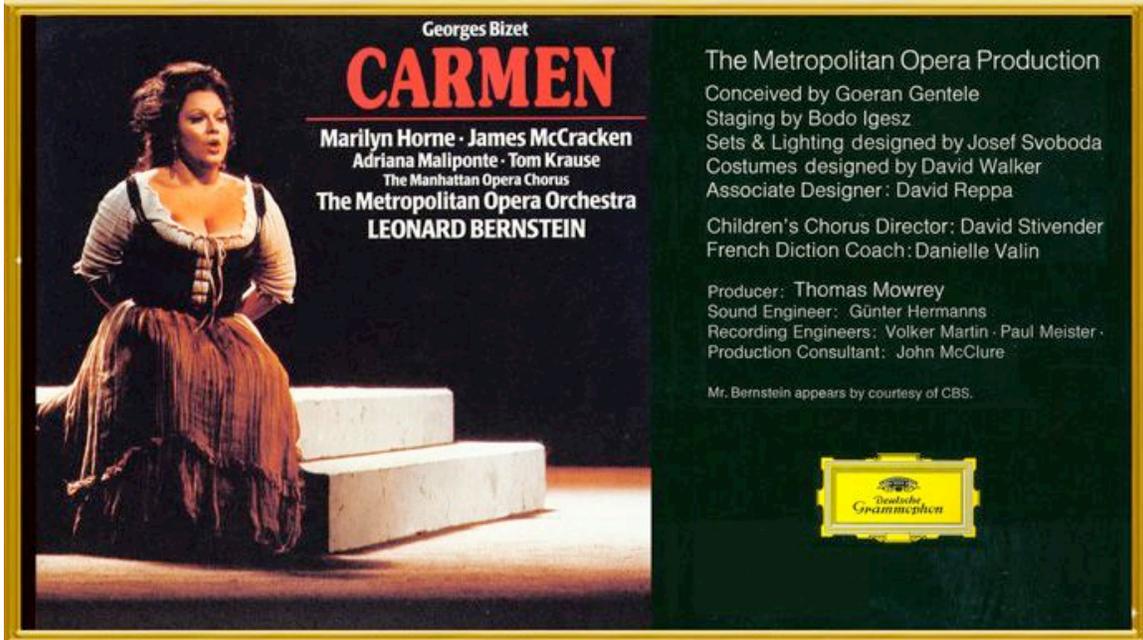
My score already had thousands of notations that I made during the recording, but now they had to be refined to the highest degree possible and the actual edit points had to be marked in the score.



The page on the left here shows the Prelude to Act I, with two edits in the first eight bars, and since Bizet wrote a repeat on the first sixteen bars, those edits had to be repeated from the backup tapes for the second time around. The page on the right shows a scene late in Act III when Don Jose and Micaela are going through some angst, and the last note of Jose's phrase has to come in exactly with a forte entrance in the French horn. We never got that right during recording, so what you see here is what had to be done before the days of digital editing. That lightning-bolt looking thing at the top is actually a piece of the two-inch, 16-track master tape which has been precisely tailored by my editor, Christa Conrad, and excised in such a way that the horn and the singer hit the note exactly together.

There were 592 edits in this 160-minute recording, and it took about two months of long days and nights to do them. When they were finished, we came out with six 16-track master tapes — one for each side of three LPs — but now those two-inch tapes had to be mixed down into two sets of production masters — one set of four-track surround masters on half-inch tape, and another set of stereo masters on quarter-inch tape, from which the LPs would be directly derived. That would take another two months. Although DG's usual practice was to have the balance engineer do the mixing, this project was so intricate and there was so much riding on it that I decided to do it myself.

It was finished in March of 1973, and in the meantime, DG's creative services department had been preparing an elaborate box and booklet to go with the LPs. It was released in April. Deutsche Grammophon put a lot of muscle and money behind promotion and distribution, and it paid off. The album got excellent reviews and enormous publicity and airplay and sold about 350,000 records.



Lenny and I both got our first Grammy Awards for it, and within a couple years, he left CBS and signed an exclusive contract with DG. I produced two more records with him before I left DG in 1977 and moved to London to produce for British Decca.

So, my friends, that's how three of the 50,000 Golden Age LPs down in the Sibley Music Library got made. There are lots of small variations on that scenario, but I can assure you that the almost all of the other 49,997 went through similar processes of gestation, labor and birth. The result is that 450 years of western music has been preserved for the ages in performances by the best musicians of the 20<sup>th</sup> century. None of us knows what that will mean in the very long run, but for now, at least, it does seem to have been worth doing.



The students, graduates, faculty, administration and trustees of this University played a significant role in all that, and now that Ronald Rettner has given you this fantastic new facility, I can't wait to see what you do next.

