Music at MIT Oral History Project

Rajesh Mehta

Interviewed

by

Forrest Larson

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Massachusetts Institute of Technology Lewis Music Library

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Note on timing notations:

Recording of this interview can be found either as one continuous file or as split up over two audio CDs. Timings are designated in chapter headings in both formats, with the timing on the full file preceding the timing on the CD version.

Contributors

Rajesh Mehta received a B.S. degree in Electrical Engineering and Humanities from MIT in 1986. He is a trumpet player and composer active in Europe. At MIT he played in both the Concert Jazz Band and the Festival Jazz Ensemble. Jazz courses with Mark Harvey were critical in his musical development. He has developed extensions to the trumpet, and works to mix jazz with Indian Classical Music and other genres. In April 2001 he was MIT artist-in-residence.

Forrest Larson, Library Assistant at the Lewis Music Library, has attended training workshops in oral history methodology and practice at Simmons College and by the Society of American Archivists, and is a member of the Oral History Association. He is also an active composer and violist.

Telephone interview conducted by Forrest Larson on March 24, 2001, in the MIT Lewis Music Library and Rajesh Mehta in Berlin, Germany. Duration of the audio recording is 1:17:23.

Music at MIT Oral History Project

The Lewis Music Library's *Music at MIT Oral History Project* was established in 1999 to document the history of music at MIT. For over 100 years, music has been a vibrant part of the culture at the Massachusetts Institute of Technology. This history covers a wide variety of genres, including orchestral, chamber, and choral musical groups, as well as jazz, musical theater, popular and world music. Establishment of a formal music program in 1947 met the growing needs for professional leadership in many of the performing groups. Shortly thereafter, an academic course curriculum within the Division of Humanities was created. Over the years, the music faculty and alumni have included many distinguished performers, composers, and scholars.

Through in-depth recorded audio interviews with current and retired MIT music faculty, staff, former students, and visiting artists, the *Music at MIT Oral History Project* is preserving this valuable legacy for the historical record. These individuals provide a wealth of information about MIT. Furthermore, their professional lives and activities are often historically important to the world at large. Audio recordings of all interviews are available in the MIT Lewis Music Library.

1. Current work and post-MIT education (00:00–CD1 00:00)

- FORREST LARSON: I'm very pleased this afternoon to have Raj Mehta, MIT Class of 1986. He's in Berlin, Germany. And I'm Forrest Larson of the MIT Music Library. I'm in the MIT Concerts office. [Note: It is March 24, 2001, and this is a telephone interview.] Thank you very much for your time. And can you tell me briefly what you're currently doing right now?
- RAJESH MEHTA: Well, what I'm doing right now is, first of all I just came back from India, from a project involving dance and music. And that was really wonderful. And I continue to do my work, extending my language as an improviser, and my instrumental innovations, some of which I've self-designed, and the other ones I've found. And I'm, yeah, busy conceiving new projects as a composer. Most recently I started applying some mathematical tools to composition, and I think I'm going to be pursuing that further.
- FL: I'm really looking forward to talking with you about that further. Prior to being in Berlin, you were in Amsterdam. What led you to move to Europe, from the United States?
- RM: Yeah, very good question. I met a Swiss saxophonist in 1989. It was about the time when I was studying with Anthony Braxton [b. 1945] at Mills College [Oakland, CA]. He happened to know of me through a bassoonist in a semi-professional jazz band I was playing in, in San Francisco. And, well, he invited me for a tour in 1991, in the summer of 1991, in Switzerland, with his Swiss trio. And this was an entirely improvised quartet.
- FL: In the trio, what were the—who was in that trio?
- RM: The instrumentation was saxophone, cello, and percussion, and myself on trumpet.
- FL: And who were those people?
- RM: A saxophonist named Hermann Bühler [b. 1962], from Zurich, and cellist named Christoph Steiner, and percussionist Denis Aebli. And it was basically at the invitation of Hermann Bühler. It was on his invitation that I went basically to Europe for the first time. We did a tour of Switzerland. We had, I think, five or six concerts in different cities. And then I went to Amsterdam after that.
- FL: So your studies—did you formally study with Anthony Braxton, or was it more a working relationship with him, just musically?
- RM: No, no. Well, I formally studied with him. I studied in his composition seminar, which was once a week on Wednesdays [laughs] if I remember correctly. And he was kind enough to give me also some private feedback on my compositions, so we had a one-on-one session. At the time—this was 1989, 1990—I was living in San Francisco. I had a tutoring business that I started, teaching math and physics and chemistry privately. It allowed me to regulate my schedule and to be able to, you know, do more music.
- FL: Were you teaching high school students?
- RM: And I also did some acoustics research at a consulting firm.
- FL: So were you teaching high school students, or tutoring high school students?
- RM: I was tutoring everything from ten-year-olds, arithmetic, to Ph.D. candidates who needed to pass their statistics exams, Ph.D. education students at [University of California] Berkeley. So, and then I was teaching physics and chemistry, so basically it spanned the whole age range, and it was really interesting because I had to keep my chops up in math and science. And I ended up hiring a few people, two or three people, in the natural sciences, because I

had no real experience in it, and I was getting too busy. So I hired two students from Berkeley to teach biology as well as chemistry.

FL: So how long did you study with Anthony Braxton?

RM: Well actually, formally the study really lasted about a year, '89 and '90. So, fall of '89 and spring of '90, and then a little bit in the fall of '90 as well. There I was in a seminar that he had on John Coltrane [1926–1967], Charlie Mingus [1922–1979], Ornette Coleman [b. 1930], so I sat in. I mean, he was very kind to me; I never formally enrolled at Mills as a student, but I was an honorary student, let's say. And I would say that was really my sort of launching pad towards, you know, towards a life in music, and the real decision.

FL: Wow! So it was through Anthony Braxton that you made the connections in Europe, too? Yeah.

RM: Well, it was through studying with him. Yeah, I actually—Hermann Bühler was interested in Braxton, and realized that there was this trumpet player who's studying with him. So yes, it's true; indirectly through Braxton, I met this saxophone player.

2. Family background and early years through high school (06:00–CD1 06:00)

FL: So turning back the clock a little bit, tell me about growing up in Calcutta, India.

RM: [laughs]

FL: The musical experiences you had, and the family music, and stuff like that.

RM: Well, I was born in Calcutta, but in a Gujarati family, so from the state of Gujarat, which is north of Bombay [Mumbai], which had, unfortunately, this horrible earthquake recently [Gujarat earthquake, January 26, 2001].

FL: Yeah.

RM: Gujaratis are really, sort of almost by definition and historically, traders and merchants. And there are other ethnic groups in India which are more focused on, say, on the arts and education, but Gujaratis are really interested in education as a way to get, let's say, economic livelihood, you know. But I was raised in a family that was mostly listening to devotional music, Bhajans, and film music. I mean, my grandfather was an accountant for the Roxy Cinema in Calcutta.

FL: [laughs]

RM: So I mean, rumor has it that my father and uncle watched almost every film that ever passed through there. So I remember hearing, as a child, devotional music, and film music.

FL: Now, the devotional music—was that mostly vocal music? Obviously it would be vocal, but—

RM: Yes, it was mostly vocal music.

FL: —were there instruments with that?

RM: Sometimes there were, but largely it was acapella, you know, in choruses. I remember even singing those devotional songs in the temple. So, I remember these processions. Okay, when it came to rituals, marriages, etcetera, then—then there were also instruments accompanying.

FL: Did you learn any of those traditional Indian instruments?

RM: No, I never—I never learned any traditional Indian instruments. And I only lived in Calcutta until I was six and a half years old.

FL: Mm-hm.

RM: Two of those—let's say two or two and a half years, of those early years, were also in Bombay. And my mother is from Bombay, so we—you know, I moved around quite a bit between these two cities.

FL: So did your family sing and just kind of make music on their own?

RM: That's an interesting question. I'd say my mother has a really—she has a beautiful, reserved voice, and she—she sang a lot. She was a hobby singer—film music singer. And so I remember her singing a lot, and listening to film music. But otherwise, no one. I think my mother was my direct connection to hearing music on a daily basis.

FL: So when you moved to New Jersey, did you feel like you took some of that musical tradition with you, with the family? Did that kind of come as well?

RM: Well first of all, I think my, you know, my first impressions—first of all, my father had left when I was three and a half, so it was quite a separation, for almost three years, or perhaps even slightly longer. We were kind of separated; we hadn't seen him for three years. He went and studied computer science. So, the—first there was this adjustment, of just getting used to being a family again. And it's funny, but you know, one of the other—well, loves I had very early, than music, was mathematics. Math is like—it's almost a sport, like football is for Brazilians. For Indians, math is [laughs]—is quite an early sport that they engage in. So first thing I remember was, well, I went from this really warm and extended family to cold New Jersey, and that took a little period of adjustment. What I—when I discovered, let's say, my musical heritage, was perhaps in the coming years, when suddenly, you know, music came back into the house and my mother was listening to Rutgers University, or in New Jersey some local Indian programs, sort of every Saturday morning, and then cassettes of film music. And then I got to pick up an instrument when I was ten years old, in elementary school.

FL: And what instrument was that?

RM: So I picked up the trumpet.

FL: Uh-huh.

RM: And people ask me, "So what's an Indian boy in New Jersey with that kind of background picking up the trumpet?" [laughs] Well, you know, I was asked this in—before the premier of *Reconfigurations* [2001], I was interviewed. And they asked me also, "Why did you pick up the trumpet?" And I think I heard Louis Armstrong [1901–1971]. I mean, I have a vague memory of hearing him play on record. And it was very clear to me, you know, that I should play the trumpet, so ever since then, which is now—1974 'til now—twenty-seven years, I'm still with the same instrument, so to speak. Because it's expanded quite a bit since then; I have other trumpets in my arsenal, so.

FL: And we'll get into more detail on that.

RM: Yes, yes.

FL: Are there any other instruments that you learned, like growing up, or since then?

RM: No, no, nothing. Nothing really significant to speak of. I think, although the trumpet's been very, very important to me, obviously, and that's my instrument, I think I've been so influenced musically by so many other instruments that I think those were also—those other

instruments and other, even traditions, musical traditions—were also the impetus for me extending the trumpet the way I've extended it, in order to yield certain possibilities that weren't available, or weren't audible, from what I'd heard up to that point on the trumpet.

FL: Wow. Can you tell me about your—some of your musical experiences and musical education prior to coming to MIT?

RM: Uh-huh. Well first, like I said, I started in fourth grade and when I was ten, playing the trumpet. And then it was all fairly concentrated on public school stuff, so stage band and these kind of things. When I was thirteen I remember having a private teacher, and he came in with some serious harmony and chord theory. [laughs] I was pretty amazed and overwhelmed. But I had this teacher for a little while.

FL: Who was that teacher?

RM: Then in high school, I mean, really notably, I would say in high school things really started taking off for me in terms of recognizing how much music meant to me. Although, you know, I mean, mathematics and sciences, and just my sort of love for learning, probably like many MIT students who end up at MIT—they were also quite a priority. And of course, some family influence had something to do with it, but it already started when I was, let's say, ninth grade. We had an amazing high school music program run by two, to this day, really two fabulous teachers. One was a jazz pianist and the other one was a classical French horn player.

FL: And what were their names?

RM: Joe Mundi was the pianist, and Bruce Bradshaw was the classical French horn player—or at one time, he studied at Boston University. So it was an amazing marriage. These guys, okay, focused on the marching band, because we had a two hundred and fifty piece marching band, called the Superchiefs.

FL: [laughs]

FM: Keeping in—keeping in [laughs] line with Piscataway. Piscataway is also an old chief's name, so we were the Superchiefs.

FL: Wow!

RM: And what was really remarkable about these guys was, you know, they could take any group of entering musicians—basically anyone who wanted to play music in high school—and turn it into really a wonderful unit. They wrote the music themselves; they designed the formations themselves. So, and it was almost boot camp, but you had to go through the discipline and the training of marching band before you could play in the orchestra, or you could play in the musicals, or you could play in the jazz-rock ensemble. So, you know, I cut my teeth there in high school and spent an enormous amount of time doing it. We ended up going to Ireland when I was a junior, to compete in the Saint Patrick's Day Parade. The jazz band played for the Mayor of Limerick, and the concert band in Galway. [laughs] So we traveled with this group and we competed. It was thanks to this density of musical experience, these four years, that I would say that I had really kind of a basis to go further, you know, with music.

FL: So in high school, you obviously played in the marching band, and you mentioned the jazz band. What other groups did you play with?

RM: I played in the concert band, the wind ensemble, and I played in musicals; you know, they did all kinds of musicals then. And yeah, that's about it. And I was, basically ended up playing lead fairly early in the jazz band.

FL: So—

RM: I was a strange lead trumpet player because I wasn't really only interested in the rage at that time, which was Maynard Ferguson [1928–2006], and just playing high. I think in a way my interest in playing lead [laughs] was more, perhaps, the leadership role in it?

FL: Uh-huh.

RM: The lead trumpet sort of carried the voice for the ensemble in these charts. But it was also that it had the most melodic part in the band, you know, so I was very interested in melody. I think there's an Indian penchant there that came through.

FL: So when you were in high school, was there a certain—how did you think of yourself as a musician? Were you—not to put labels, but did you think of yourself in kind of the jazz tradition? Or did you just think of yourself as a musician, in general, and not—not specific in that way?

RM: You know, there wasn't enough stylistic definition at that point for me to say that I was anything more than just a musician, or even just a trumpet player at that point, you know. I played everything that they wanted me to play. But it was, yeah, it was when I was a junior and senior when—I mean, the jazz band was really exciting for me. I also, you know, played some concert music and some classical music. But improvisation really attracted me, and—

FL: So how soon did you get started with improvisation?

RM: In the jazz band.

FL: Yeah, in high school.

RM: In high school, yeah. You know, little parts, little solos here and there. But I really loved it! I really loved having the opportunity to improvise.

FL: When you were in high school, had you been introduced at all to free jazz, or other kinds of avant-garde music?

RM: No, not at all. Not at all. Rather, I think it's rather, you know, rather conservative, or rather commercial, the charts, you know, we ended up playing. Don't even remember really playing, maybe one or two [Count] Basie charts [1904–1984], but you know, Sammy Nestico arrangements [b. 1924].

FL: [laughs]

RM: No, and Maynard was the rage, you know. We didn't—nobody introduced me to Miles Davis [1926–1991]; I happened on him by accident, sitting in the car, with the radio. And I just was so blown away that—what a contrast to all the—the idols that were put in front of me when I was in high school.

3. Higher education (20:19–CD1 20:19)

FL: So prior to MIT, how were you thinking about music for you for the long term?

RM: Well, I never thought of it as a—that it would turn into, let's say, a professional career. Now that could be also because I'm from a—a pretty strict Indian family, and my father's a computer scientist, or was a computer scientist. But it was also that I was fairly clear when I was even a freshman in high school that I wanted to go to MIT. And I mean, I loved math so much. And heard that it was one of the best places to go for that, if not the best place. And so I—I just felt this recognition that, yeah, I want to go there [laughs] so simply!

FL: [laughs]

RM: And I ended up going there. I knew that somewhere, it was—I think somewhere in my high school career that there was something very fishy about my [laughs] relationship to music. I had so much passion for it. But no, it wasn't absolutely; there was no opportunity. It wasn't clear that I would pursue that. My band directors had always put me in the most challenging positions I could be put into, looking back, you know, in hindsight. But they were incredibly good teachers. They never pushed me in—in a very, say, vocal way; they were very subtle in their support.

FL: So when you were planning to come to MIT, did you know much about the music program here, or just even the humanities, the School of Humanities, now? Did you know much about that?

RM: No, not at all. What I knew was that Boston was a great city for music, and I knew that because I spent the summer of—at the end of my junior year in high school in a research internship program at Boston University. It was a small—there was a research internship of thirty—thirty people from around the country, and we were each paired up with a scientist to do a summer project with physics [unclear]. So I mean, I really was very attracted to Boston, but also MIT and MIT's proximity to, you know, to a lot of things that were going on with music. But I didn't know internally what was going on, you know, at MIT in terms of music.

FL: So what were you thinking about—what were thinking, musically, when you came to MIT? Were you thinking that you would find opportunities outside of MIT? Or, how were you thinking that way?

RM: I thought, I mean, first as a listener, and just in terms of listening that I would be able to get a great deal of exposure, you know, with New England Conservatory there and Berklee College of Music. I mean, you have a lot of universities there also with their own music programs. And as a player, I found out fairly quickly that it had a jazz band, or a couple of jazz bands, and brass ensemble, and how strong it was! I mean, MIT—

FL: Did that come as a surprise to you?

RM: --had really a lot of music going on, so I was really pleasantly surprised.

FL: And you found out about that fairly soon after you got here?

RM: Yes, yeah, I did. I don't know exactly when I joined the [MIT] Concert Jazz Band. And I was in the [MIT] Brass Ensemble for two years, and the Concert Jazz Band for two or three years. And when I made it into the [MIT] Festival Jazz Band [Ensemble], because I also admired Herb Pomeroy [1930–2007, director of MIT Jazz Bands, 1965–1985]. I thought he was a really, really special figure. Unfortunately, he retired the year that I—the year that I made it.

FL: Oh. [laughs]

RM: And so, and then I went to [UC] Berkeley for seven months to do my history of ideas part—

FL: Uh-huh.

RM: —of my degree, which actually I discovered after going to Berkeley, rather than before. So it was actually a process of discovery than that I had this plan of doing history of ideas.

FL: I'll get back to that degree—

RM: Okay.

FL: —because I'm really interested in that, too. So, you actually didn't play with the Festival Jazz Ensemble then, with Jamshied Sharifi [Director of MIT Festival Jazz Ensemble, 1985–1992]?

RM: No, no I didn't.

FL: Yeah.

RM: I didn't. That was the year that I'd left for Berkeley, and I came back only for a few months, one more semester, my senior semester.

FL: So what was it like—the Concert Jazz Band that was with Everett Longstreth [Director of MIT Concert Jazz Band, 1968–1995], right?

RM: That's right.

FL: Yeah, and they played fairly straightforward, traditional jazz, you know, and I'm thinking of your music now.

RM: [laughs]

FL: What was that like for you?

RM: Well, you know, I think I was playing lead and getting to improvise a little bit. But it was just a way of keeping also in touch with playing. And also the Brass Ensemble, you know, we played—I forget the man who was the head of it. He was a trumpet player, classical trumpet player. But the real, let's say, the space to improvise came through my own ad hoc ensembles that I started forming fairly early, already my second year at MIT. [Editor's note: Head of MIT Brass Ensemble was Greg Hopkins, b. 1946; trumpeter.]

FL: Tell me a little about those groups.

RM: Well, there was one called Interfusion, and another one called Blue Elixir. And they were—I mean, we played really everything from *Kind of Blue* [Miles Davis album, 1959] to, I don't know, Spyro Gyra [jazz-rock group, started in 1974], and all kinds of—a mix of stuff, which at that time was really fine to do. [laughs] But you wouldn't catch me dead playing that stuff anymore!

FL: [laughs]

RM: But it was a good training ground. I mean, I really got to form some small quintets and sextets. I also had, for a short time in my senior year, a quartet with a rhythm section from Berklee College of Music, playing like basically Miles in the seventies. So those, you know, were the moments where I could really stretch out. But it was, you know, Mark Harvey's [MIT Lecturer in Music and Theater Arts Section] IAP [Independent Activities Period] Seminar in 1984, so my sophomore year, that—that's where I got my first introduction to free improvised music.

FL: So his seminar was on free improvisation?

RM: Yes, it was an IAP, yeah, seminar. And I just remember—I remember that clearly! And then, you know, I took Mark's class and got to know Mark over time. And yeah, I would say that really, you know, the significant impulse to really—and support to be the musician that I am, came from Mark Harvey.

FL: Yeah, he's been a great mentor to you over the years. And you took—

RM: Yeah, mentor in so many ways! I mean, yes, he's a trumpet player, and yes, he taught jazz history. But you know, Mark is a teacher of, you know, so many dimensions. And we had an affinity on many different levels—I mean also, that he was not only—I mean, he's obviously

a jazz musician, but he's also, you know, influenced by Charles Ives [1847–1954] and the whole American experimental music—composed music tradition as well. So, that breadth, and also his interest in religion and music—okay, intellectually, on one hand. I ended up studying with Robert Bellah [Professor of Sociology] in Berkeley, who was an influence on Mark's Ph.D. on Charles Ives and civil religion ["Charles Ives: Prophet of American Civil Religion," 1983]. So, there were all these coincidences—probably not so—real coincidences, but there were a lot of attractions.

And Mark was the one who I really trusted when it came to a point of deciding, you know, in 1989 or '88, when I thought, well, look. I'm doing my technical stuff on the side, but the music has grown so much that I have to sort of give my life over to music. And I remember charging a flight [laughs] on a credit card to Boston! And having a three-hour lunch with Mark, and yeah. He said, "Well, what's out there?" You know, I said, "I want to go and really pursue music seriously." It was one of those, you know, thresholds—being at the threshold of something, moments. And I said, "Well, I met this guy Anthony Braxton [b. 1946]. He plays a lot of saxophones. And I don't know what to think of him." And Mark gently said, "Well, check him out. He's brilliant." I did, and Braxton and I had also incredible chemistry, and he invited me to stay. So it was a very—yeah, I think Mark was the—definitely the decisive influence, let's say, from MIT.

FL: So how did you come to play with the Aardvark Jazz Orchestra?

RM: Well, through being around Mark. You know, he's a minister, but for me, I was so impressed by how, sort of, his ministry manifested itself through the way he led Aardvark. And I mean, it's, you know, I think improvisation and composition and his range of expression, and bringing out the creativity of each individual is—you know, it's a spiritual phenomenon. And I think there are few who do it as well as Mark Harvey does. So I was attracted and he started integrating me. And so, I mean, it says in the—I looked on the web. There's a little bio about me as a music alumni, and that I've been in Europe since 1998, which is not true. I've been here since 1992. So, just to say that the last time I was in Boston, at MIT, I played with Aardvark, [laughs] almost exactly the same time as I'm coming—it was a decade, exactly a decade ago. And that turned out to be a CD: Aardvark Steps Out [1993]. It was Aardvark's first CD, so it was a real privilege, too.

FL: So how long did you play with them?

RM: Not so long. I think I did, let's say, before I went to Europe I might have done three gigs with them.

FL: Was this a first opportunity to really stretch out your non-traditional technique. Like that CD, that piece "Mutant Trumpets"—

RM: [laughs]

FL: —you really seemed real comfortable with that, and really going with it. And so, was Aardvark the opportunity to re-grow with that?

RM: Aardvark was one of them. I mean, when I played—you're talking about *Aardvark Steps Out*.

FL: That's right.

RM: I recorded that—that was in 1991, so I'd already had, you know, two years, those two years after I met Anthony Braxton as well. So it was really in this period when I was studying with Braxton that I started forming my own ensembles, and started composing. But all along, you know, sending this stuff also to Mark, so it wasn't so much just Aardvark, but it was really

this dialogue with Mark about my musical evolution. But, yeah, I felt definitely at home in the "Mutant Trumpets"! [laughs]

FL: [laughs] I was at that concert, and—

RM: Oh, you were there! Oh, wow!

FL: —I still remember that, yes. I distinctly remember your trumpet playing.

RM: Oh!

FL: Yes! What other MIT music faculty did you have contact with when you were here?

RM: Well quite frankly, not very many, to be honest. I mean, I didn't take many classes. I took Basic Musicianship and then I took Jazz Harmony and Arranging with Mark; I audited that class. So, I was aware of different faculty, like John Harbison [b. 1938; composer, MIT Institute Professor of Music]. A friend of mine, who was in one of my groups, Ray Zepeda [MIT class of '88; alto saxophonist] —he had studied with John. So I was aware, you know, of different faculty, but I didn't have really much to do with them directly.

FL: Who did you take the Musicianship class with?

RM: You know, I can't remember, at that time. It was—I don't remember.

FL: Uh-huh.

RM: It was like 1982, so I'd have to search my memory banks.

FL: That's okay. So you majored both in Electrical Engineering and Humanities.

RM: Right.

FL: First tell me a little bit about your electrical engineering, your specialty, and your interest in that field.

RM: Well, my interest, to be quite honest, was probably always mathematics, and I probably happened on engineering. Probably a little bit of, you know, family interest that I become an electrical engineer. That was the [Ronald] Reagan [US President 1981–1989] era and electrical engineering degrees brought the most comfortable jobs in the marketplace. I started off just as a pure electrical engineering student, but I think it was really—was really my love for mathematics that sort of even got me through. The one course that I really enjoyed, and I think had some influence, was Digital Lab. And then I did also some—some courses at Berkeley during those seven months which were transferred to MIT, and I had a Natural Language Processing class, which was really a computer science-math class, with Zadeh, Lofti Zadeh [Professor of Mathematics at UC Berkeley] which was—also I remember that. It was important. It was an eye-opener. But yeah, generally, I have to be honest that the humanities at MIT really attracted me, which was really surprising! I had never imagined that it would go in that direction. I kept taking classes in engineering, but I quickly realized that I needed a broader degree. And looking back, what was great about MIT was that it really had the flexibility for someone like me, who was—okay, it took some persuasion, but I did end up getting a pretty unique degree out of MIT.

FL: So you're talking about persuasion. Who was it that was influencing you to do this more non-traditional degree program?

RM: Probably—probably no one. Myself—it was my own sort of inner voice, I would say. I would just say that I had some encouragement. There was—I had, let's say, support along the way, again from Mark, from Steve Chorover [Stephan L. Chorover, MIT Professor of Brain and Cognitive Sciences]; he was in the Psychology Department. At one point I really

thought about majoring in music for my Humanities component, and then I decided against it because I wanted to do, let's say, a broader history of ideas part, and just to play the music, and work on the music, rather than to take classes in it at that time. And no, it was—it was basically a discovery. I had some support. Travis Merritt, I think, was the Head of the Humanities Department at that time [Travis R. Merritt, MIT Professor of Literature and MIT Director of the Humanities Undergraduate Office]. He was also very supportive when I decided to do a 21E degree [joint major in Humanities and Engineering].

[END OF CD1 38:00]

- FL: Uh-huh. So, the history of ideas program—tell me about your interest in that. And did you do a thesis or any kind of research paper in that area?
- RM: No, I didn't do a thesis, but I—no, I actually didn't have a thesis in that. What I did was basically I had a range of classes that went from Eastern to Western philosophy, and not only through the Philosophy Department; there were some in the Religion Department, and some the Political Science Department, and also in Philosophy and Anthropology. So it was—but, let's say it became the history of ideas because of this philosophical interest. And there a major, major figure was actually a professor at [UC] Berkeley named James Jarrett, who was sort of an old professor—he's retired now—in the Graduate School of Education, who was a philosopher of art. And he really influenced me significantly and helped me even design the history of ideas program. Now, some of the courses, by that time, I had already taken, so it was a matter of, you know, really finishing it, and supplementing what I had already done. And yeah, he was very influential. And then it came to MIT, and MIT basically approved it. And so yeah, [laughs] that's how it happened
- FL: So, this is an unfair question, because—but your interest in history of philosophy—can you tell me some of the particular things, particular either philosophers, or trends and ideas, or things—?
- RM: Sure. I mean, I was really inspired by [Friedrich] Nietzsche also because of his passion for music. I think that the German philosophers really attracted me; school of hermeneutics was also fascinating. Let's say [Martin] Heidegger was also, let's say, one of the thinkers that I—also his reflections on art. [Carl] Jung, who I also consider a philosopher. Basically, thinkers who had reflected on art were really very important to me in this period.
- FL: Wow, I wish we could get more into that. Moving on here, can you—this is getting back to what we were talking about before. But the MIT environment—as you look back, what are some of the things that you feel like you really got from it that you might not have gotten from a traditional music school, or a more traditional liberal arts institution?
- RM: Yeah, good—very good question. I think the pitch at MIT was really high, you know, in terms of just intensity for anything. And that had its plusses and minuses at the time when I was studying there. But if I look back at it, I think MIT was—was in some ways, was really absolutely the right place for me to be. There was a lot of just challenging thinking going around. And I would say I transformed some of that energy [laughs] and converted it into my own, yeah, converted it into my own, let's say, direction. So, but the spirit of research and of innovation is what I think I really, really admire about MIT. And even though, let's say, at the time I was fairly unconscious of the engineering side or the technical side, what that really meant to me. I mean, in these last years, my instrumental extensions and innovations, my interest in actually using mathematics and music—it's really coming to the fore.

And I think MIT had a very strong Humanities Department, had people like Mark, who are just unbelievable musicians, and had this incredible high-powered, you know, technical environment. So that combination—I don't know where else you can find that kind

of combination. On top of it, I got to study at Wellesley [College, Wellsley, MA] and at Harvard [Univeristy, Cambridge, MA]; I could, you know, sit in on a seminar on jazz there, and go to Berkeley for seven months, University of California. So, that I actually could do that is really a testament to MIT's belief, and openness in a certain kind of way. I mean, I don't think it's—it's necessarily given on a platter, but if you look for it, you really have a chance to create something unique in terms of an education. So I think that was really—yeah, those are my positive feelings about that experience.

FL: So, also in 1986, you were the winner of the Eloranta Fellowship [Peter J. Eloranta Research Fellowship].

RM: Exactly.

FL: Tell me about the project that came from that.

RM: Yeah, that's another confirmation of what I just said, that, you know, I discovered that there was such a thing as the Eloranta. A friend of mine, Mihai Menoliu [MIT class of '84] had won it the year before. And I had this desire to go and...and explore jazz in France, and so I started doing some research, again supported by Mark [Harvey], and I was curious why an American music was actually better received in Europe [laughs] than in America. So I wanted to investigate that, so I put a proposal in. And I mean, you know, a technical place like that having a fellowship like the Eloranta for a creative proposal in any field is also really so rare. So that I got supported to go and investigate jazz in France, being an MIT student, [laughs] is really remarkable!

FL: So did you write a paper that came from that? What was the result from that?

RM: The result from that was actually we met with [MIT] President [Paul] Gray [1980–1990] and we had a discussion about it, about the trip, but there was no paper. I mean, I had the idea of really presenting a paper, but to be quite frank, it probably impressed me so much that I couldn't write a paper on it. And to some serious extent, I'm living that in 2001. I'm actually a professional avant-garde musician, living in Europe. I spent two years, the first two years, '92 to '94, half the time in France itself, working with modern dance companies. So, that first trip, I think, had a really, really [laughs] significant impact on—on being attracted to Europe as a possibility to be a professional avant-garde musician.

FL: That's really interesting, for that Eloranta Fellowship, that you weren't required to write up some formal document, and that says something about the fellowship, too.

RM: Mm-hm, yes.

4. Approach to composition and performance (46:47–CD 2 6:47)

FL: So moving on to the—a little bit in the future here, you're going to be Artist in Residence at MIT, April 25th through the 28th [2001], I believe.

RM: Right.

FL: And you're coming with Paul Lovens [b. 1949], a percussionist. Tell me briefly about his musical background and how you came to be playing with him.

RM: Paul Lovens was, as far as I'm concerned, he's one of the great free improvisers in improvised music, and I admired Paul since I—I didn't know of Paul's work until I came here, in Europe, but you know, quickly found out who he was, and what he did. And he's played with Cecil Taylor [b. 1929] for many years, the last decade. And then, I put out my first CD [*Orka*]—I was ready to put out my first CD—of solos, which I had been working on for many years, compositions using my, you know, extended instruments, the hybrid trumpet,

and the normal trumpet, etcetera: improvisations but, you know, that I had been actually really working out for four or five years. And then I needed a partner to—to make the rest of the CD up. And I met Paul by chance at a concert; my first solo concert in Amsterdam was a double bill with a group in which Paul was playing, and they had asked me to sit in. And yeah, I had asked him to join me on the record. And the record [CD] you [MIT Lewis Music Library] have, *Orka*, was the first time we actually really played together other than that sit-in. And that five-hour recording is what you hear, as duos.

FL: Wow.

RM: And ever since then it's become, you know, clear that this duo will last. So, I chose Paul also because I'm so interested in—in this abstract timbral and sonic universe, let's say, pitted against time. And so, there's no harmonic mediator; there's no bass player or there's no piano.

FL: Right.

RM: So that was really intentional. I wanted just sound and time, if I can say that.

FL: Right, and it's—

RM: But I also played time. I mean, that was—I mean, my hybrid trumpet also allows for certain percussive possibilities, and so we reversed roles. That was also very, very important, and is an important aspect of my work, is that it's not just horns and rhythm section, but everybody is responsible for the entire musical elements and ingredients in a piece, in an improvisation or in a composition.

FL: And what's interesting about Paul's playing: it's not—he's really exploring the sounds of the instruments and not necessarily keeping a beat. And it's a wonderful world that he does with that. So, tell me a little bit more about your, this concept of time that you're working with, when it's not working with a steady beat.

RM: Mm-hm. Well, as in improvisation, you know, it's very asymmetric, let's say jagged, angular approaches to time. You have a whole, you know, variety of approaches to time, let's say. In that duo with me and Paul, he plays sometimes grooves, but they don't last very long; they're really effervescent. And that's a real, certain kind of challenge. I also then get the opportunity to play time myself, when the drummer's not playing time [laughs], so that's also—it opens up a lot of possibilities for going in and out of certain kinds of sonic spaces, and not be just locked into a periodic groove—which doesn't mean that I'm not interested in that. I mean, one of my recent CD's is also with a South Indian percussionist, and they have really a fascinating tradition of mathematical permutations. And that's also something that's really fascinating to me.

And I've also incorporated—so I'm interested in the entire spectrum from let's say very jagged and asymmetric time approach to a periodic one. And I've composed metric cycles for my—for my compositions. And most recently, I started using some—some math again to generate metric material for the percussionist in my last CD, *Reconfigurations*. And that was really interesting. That was actually periodic, let's say, material, fixed material, which I had and used freely also, to some extent. So, that created both, and sometimes he would go into grooves and out of it, depending on what the other instruments were doing, and musical necessity.

FL: Yeah. Relying on some of your philosophical bit—can you talk about some of the underlying musical and aesthetic ideals that inspire you? I know that's an unfair question.

RM: [laughs]

- FL: But is there a way that you can talk about that?
- RM: That inspire me. I would say in terms of the traditions that I'm as much inspired by improvised music as I am by contemporary composed music, for example [Edgard] Varèse [1883–1965] and [Iannis] Xenakis [1922–2001] who are two of my favorite composers. And they were both also technical men. I mean, Varèse studied engineering, and Xenakis was a mathematician and architect. And so it's not really surprising that—that they also—I'm really fascinated by what they've done. And then I'm also really influenced by Carnatic music; I'm in love with South Indian classical music. So those are, let's say, the three main traditions that I listen to. In terms of what I'm trying to do with them, I would say at this point, you know, I've absorbed these influences, and I'm just basically really making my own—own works that integrate some of these inspirations.
- FL: When you're at MIT, you're giving a lecture, and we'll see a lot more opportunity to—you know, with your extended trumpet, your modifications: the slide trumpet, the hybrid trumpet, and so on. But for the purposes of this interview, is there a way you can just briefly describe what that is?
- RM: Okay, well I always thought that I wanted to reduce the trumpet [laughs] and make it even—almost disappear. So I started actually taking slides out of the trumpet. The whole thing started with taking a slide, which was connected to the first valve, out of the trumpet. And when you disconnect that slide, what happens is that every time you press down the first valve, the sound goes out of this disconnected slide and hits your chest. And so you have this toggling between the sound from the bell and the sound that comes out of this disconnected slide. And the disconnected slide sound was a wooden flute-like timbre. And so I started experimenting with that. That's how it started. And for a solo it was called, actually, subtraction, and you know, with a muted trumpet, with, for example, a metal mute, Harmon mute. So you had this metal sound, and a wooden flute-like sound coming and going back and forth. At one point I found—I was hearing, because I stretched the—the lower register of the trumpet; I was actually pushing it lower and lower, playing pedal tones, and somebody told me about a bass trumpet.

And it's a long story, which I'll make short. I found a bass trumpet in Holland. There were only two of these that existed at that time, apparently, in the world—so a custom-designed instrument for a trumpet player, because bass trumpet's normally a trombone bore. So this was a trombone-register instrument, but with a trumpet bore, trumpet diameter. And I did the same thing, removing slides. And before my first solo concert tour in Europe, I discovered a tube in Amsterdam, on the ground, that was used as a siphoning tool, you know, to siphon gas out of automobiles. And I very quickly recognized that it was the right diameter, and I took it home, washed it, and put it in this disconnected slide. And then I saw that I could actually redirect the sound by moving this tube around. So that's basically the evolution of it, and it went further: swinging the tube, connecting the tube to other instruments. So suddenly I started seeing, more transparently, what a trumpet was! That it was actually tubes and pistons and redirecting sound flow, and—and suddenly I was basically playing with—with the very fundamental, technical apparatus of the trumpet.

And the hybrid trumpet is basically two trumpets, or more, connected together with plastic tubing. And it started giving me also all these percussive possibilities; it was almost like a drummer with two sticks. So sound comes out of two emitters, two bells, separated by a certain distance, and so it was almost like a trumpet-drum. Suddenly I was getting, basically, an entire range of percussive possibilities that were, you know, never possible with a normal trumpet. And then the slide trumpet filled in the glissandi element that I missed, because I was so interested in microtonality, and continuous microtonality—what I call

continuous microtonality, which means, you know, the kind of glissandis that a cellist or string players are able to make.

FL: Right.

RM: Or a voice, in Indian music for example. And yeah, lo and behold, I also found a slide trumpet, with valves and a slide, designed twenty-five years ago by Holton for Maynard Ferguson or perhaps with his involvement. He was a big fan of Indian yoga, and to my knowledge it was never used as a serious instrument; it was perhaps a gimmick for Maynard fans, and so it was so well suited for the—for experimental music. And suddenly it seems to be a little bit of a rage, since people have heard me play it. It seems like there are five or six other trumpet player who are buying this obscure instrument now.

FL: So do you find artistic inspiration from sounds and noises in the environment around you?

RM: Oh, yeah, sure! Sure! I worked in the acoustics lab of a consulting firm in San Francisco, and there I was designing silencers for industrial fans; I was doing the physics of it. And I remember that the noise, you know, you'd have to shoot a noise source through a Plexiglas model of a muffler. And I remember how much I liked that noise! [laughs]

FL: [laughs]

RM: And all the shades of noise. I don't think I ever had that sort of valuation about what's a sort of—what's music and what's not music. I was fairly open to it. And yes, there—I'm open to any sound that's alive, basically.

FL: I'm thinking in one particular, very striking example: the solo bass trumpet piece "Tu-Vas."

RM: Uh-huh. That's not a bass trumpet; it's a normal trumpet.

FL: Oh, it is? But it's just, you're really in a low register there?

RM: Right, exactly. That's why I got the bass trumpet.

FL: Ah! But there's this quality of that, and I mean this in the positive sense, that it sounds, in some ways, like a combustion engine in operation.

RM: [laughs]

FL: And I'm really, really moved by that. Can you talk a little bit about that piece? And was there any inspiration from—from so-called non-musical sources for that piece?

RM: Oh, sure, sure, probably once an MIT student, always an MIT student. "Tu-Vas" was titled so because of the Tuva singers and these sort of overtone singing. [Editor's note: Tuva singing, or throat singing, refers to the traditional overtone singing technique from Tuva in South Siberia.] And I used the voice coupled with these pedal tones, and the noises, so it creates, really, a vocal—it's a vocal-noise mixture. And yet, absolutely, I mean, helicopters and engines and all kinds of other, let's say, mechanical devices that sound—probably the sounds are reminiscent of these machines as well. But you know, it's not so much of a conscious thing except after I discover a sound, or—that has a certain potential, and then I develop it. And the more associations, the better. So some people think it's, "Oh, wow, it really sounds like the Tuva singers! That's really wonderful." And other people might say, "Wow, it sounds really like machines." But yeah, I'm playing—well, I'm aware of—of all those influences, in my hearing.

FL: Have you worked at all with bringing actual either machine sounds or so-called concrète sounds into your musical performances?

RM: You mean outside sources, other than my own playing?

FL: Yeah, yeah.

RM: No, I've—to date I've never, ever taken any outside, let's say, or found sounds and integrated them because I've—either I've tried to reproduce them myself, on my instruments, or had my musicians do that in my ensembles, or in my pieces. But I've never felt a need to do that until now.

FL: Here's another kind of unfair question. The musicians that you play with also employ a lot of these extended techniques, and make sounds of a noise nature, sounds that aren't traditionally intrinsic to particular instruments. Is there a way you can describe the musical language that you're all working with? I know this is a really unfair question, but can you talk a little bit about that?

RM: You know, I'm so convinced that what comes out of an instrument, or what languages are possible to an instrument, are based on what one hears. So, I mean for example, there's—I'm being, I'm tangentially answering your question, but bear with me. There's a saxophone player in Southern India who studied nageswaram, which is a double-reed South Indian instrument. And he found a beat-up old, you know, saxophone left from the English days in India, and he plays that as if he was playing the nageswaram. And he plays traditional South Indian music, classical music, on this alto [laughs]. So, and it's remarkable what kind of phrasing he gets out of that. So, the musicians that I work with, I think, are people who've also been inspired by a wide range of, let's say, a wide sonic and timbral universe. They also all play in pitch-centered, more conventional, let's say, musical situations as well. But you know, they're explorers by nature, so they end up [laughs] finding each other, or we find each other.

FL: Yeah, it's so beautiful. Here's something else I want to—

RM: I would just like to just add one thing: it's not like—in other words, my take on innovation, in terms of sonic innovation, is that it comes out of really artistic necessity. It should come from an urgency. And it's not just the novelty of the sound that's really important to me, but that really it's an important vocabulary, or part of a language, in order to express a musical imagination, and for no other reason. So, I really check my sound, so to speak, and all my ingredients, to make sure that they really have something to do with my imagination. And that's really been the acid test for, I'm staying, or not. But of course, I discover lots of stuff in an improvisational situation; I discover things I've never done before, so it's not so rigid in that way. But in practice, and in preparation, it's very, very important to me that—that they're alive.

FL: Mm-hm.

RM: And they're only alive, I think, if one can hear them and imagine them, and have a relationship to them.

FL: You have some interesting opinions about fusion of music in different cultures. Can you speak a little bit about that?

RM: Yeah. I think there have been a lot of experiments mixing musics from different cultures. So, for example, I'm one of the most notables with Indian music with jazz. I've been disappointed by a lot of those experiments, even though I think historically, you know, they did open up a certain kind of dialogue and the existence of these different cultures—you know, just the awareness that they existed. My opinion is that—and I'm faced with that challenge myself, in some of my projects, being Indian, you know, raised in the States, and being in Europe, and being influenced by, like I said, these three different African American—I mean, the jazz tradition, contemporary composer tradition, South Indian. And my feeling is that those languages can coexist and can enrich each other if there isn't a

preconception of forcing them into a certain sonic result. In other words, not to remove the edge of those confrontations between languages, but actually to—to be open to those confrontations, and to the edge that you hear, to make it more palatable. Because those moments of rich confrontations are actually moments to develop languages, develop new musical languages, and so I think they're really valuable. And there's just too much fusing going on, rather than really trying to make a new music that respects the characteristics of the ingredients.

FL: Mm-hm.

RM: So I have pretty strong opinions about them [laughs], about that.

FL: Wow, I wish we had more time to go into that, and certainly when I see you in person I'd like to talk more about that. One last topic before we go: as you've mentioned earlier, you have a lifelong fascination with mathematics. Can you talk about this relationship with your music? And I know in the future you're planning to do more, more consciously mathematically-influenced music. Can you talk about this?

RM: Yeah. As far as mathematics and music is concerned, the composer, or one of the composers, that's been really, really impressive for me has been [Iannis] Xenakis. My own relationship to it is that in first, in my first sort of compositions that I have called the [Rai Mehta] Collective 3+, I started using certain kinds of number cycles. I started making, designing, my own number cycles, metric cycles, for those pieces. And that was really sort of my first attempts at integrating parts of my interest in numbers. Carnatic music has, like I said, been a big inspiration on me, because of its rhythmic permutations. But the first time that I really tried to design a whole piece based on, let's say, some mathematical interest was *Reconfigurations*, and what I did there was I started developing little algorithms, pattern-generating tools, that I would test, also, musically. And those pattern-generating tools were used to create a graphic score, in which all the musicians worked from beginning to end, but also the specific metric material that the percussionist had to use. And it's a very exciting direction. After let's say ten years of really improvising, and extending instruments, and making some attempts at using parts of, let's say, like I said, number permutations and metric cycles, I would like to focus more on applying mathematics to the entire piece, and to get more involved in it. I'm not sure exactly which direction I'll go in, but I'd like to pursue what I started with Reconfigurations much further.

FL: You know, it's interesting; if somebody had just played that CD for me, the last thing in the world I would have thought was that there was a mathematical basis because it's so organic. But obviously, you understand that mathematics is—that's there's a spontaneity and a real vitality to it, and it isn't just a rigid organization of things like some people assume that mathematically-based music is. And obviously, you know the music of Xenakis very well, which is another wonderful example of that. But can you just speak a little bit more about the—the creative spark that you get from mathematics?

RM: You know, for me, if I look back at really doing math at all, it was very much like improvising. It required an incredible amount of preparation, so you needed to know your tools, and your formulas, and let's say in mathematics you needed that. But you went in to basically confront problems that you'd never seen, or you don't know, or you can't expect. And I always had that same feeling, the same inspiration from doing mathematics that I have from doing music, and from improvising, that immediacy. There's—that's all I can say. I think it was just a similar quality towards the creativity involved.

Okay, there is still a sensory component in music that's different, I mean, to really be able to hear sounds and to feel it emotionally in your body. I mean, that's also a difference, let's say, from mathematics, where—where you feel inspiration, but you don't necessarily

feel this kind of sensory components that you do in art, or in music. And I've been, you know, for example in *Reconfigurations*, what is a contrast, let's say to Xenakis, is that Xenakis really applied these formal ideas to the entire piece, and there is no room in his music for improvisation. And I'm starting off the other way, where I've really taken improvisation, and I'm putting controls, or I'm applying mathematics, but I don't want to lose that spontaneity. But perhaps I also start exploring more with the purely formal works as well, side to side with works like *Reconfigurations*, where I'm interested in the combination of improvisation and structure, because there's a great deal of improvisational freedom there. But yeah, ultimately the more—I mean, the more organic the musical result sounds, the better. If you don't hear the math, then okay; I'll take that as even a compliment.

It was very interesting when [Anthony] Braxton played Xenakis for me for the first time. I knew nothing; actually I knew nothing about most of the contemporary composers he'd played. He brought, you know, huge amounts of scores and records, and [laughs] for three hours we were doused with it! And it was just absolutely wonderful! And he put Xenakis on, and I ran up to him at the end of the class I said, "Boy, that was great! That was the first time I heard mathematics in music! Who's that?" And he said, "Don't you know Xenakis?" And I said, "No." And I went to the library and found out that this guy used probability functions, stochastic processes. So, there was, okay, the recognition that somebody was really using math, but what I was so excited about was how alive it was. And that has been very rare. I mean, there have a lot of people who have used mathematics, but have not really yielded music as a result.

FL: Right.

RM: So for me, it's still very, very important, okay, as a musician, that it sounds like music no matter what formal tools you use.

FL: Great. Well, I wish we had more time to talk here.

RM: [laughs]

FL: But I trust that when you come in April, that we'll get a chance to talk more. And I want to thank you very, very much for your time.

RM: Thank you.

FL: I'm going to turn the tape recorder off, and then we can chat for just a minute more, and then we'll need to go.

RM: Sure.

FL: But I want to thank you again for your incredible generosity this afternoon.

RM: Thanks a lot.

[End of Interview]