field to have the support of her teachers and colleagues. In addition, as we have seen with racial inequities in academia, a bit of creative affirmative action can help. Why not offer a special scholarship each year to a woman in the field? Or ensure that a search committee for a new position interviews at least one woman? Or include pioneers such as Pauline Oliveros, Bebe Barron, and Laurie Speigel in our discussions of the history of electronic music?

These suggestions, of course, come from within my own "system." If you find yourself working in a different system, you may have a different list of actions to pursue. Gregory Taylor's list suggests a few. My hope is that each one of us will commit to doing something. Then, bit by bit, byte by byte, we may reap the fruits of our efforts.

--Bonnie Miksch

An Interview with Tzvi Avni
by Bob Gluck

Tzvi Avni is one of the preeminent composers in the history of Israel. He was born in Germany in 1927 and immigrated to Israel in 1935. He studied composition with the major Israeli composers of the previous generation and subsequently visited the United States in 1963-1964. While in the United States, Avni studied at the Tanglewood Music Center with Aaron Copland and Lukas Foss, and at the Columbia-Princeton Electronic Music Center in New York City. Upon his return to Israel, Avni taught at the Jerusalem Academy For Music and Dance, where he opened an electronic music studio in 1971. It became the second such studio in Israel. Tzvi Avni has won many of the major artist awards in Israel, including the coveted Prime Minister's Prize (1998) and the Israel Prize (2001). This interview draws from a September 14, 2006 telephone conversation, which builds upon previous email correspondence on August 8, 2005. Tzvi Avni was at his home in Jerusalem and Bob Gluck was in Albany, New York.

BG: What brought you to the United States?

TA: I came to the United States at the end of 1962 with my wife Pnina. I didn't really know what I was going to do there. I only knew that New York was an important center of new ideas and that it offered a wide variety of activities that might be of interest to me. I did know that I wanted to find a way to learn about what was going on in the world. After World War II, the Israeli War of Independence and the difficult economic situation in the years that followed, we in Israel were cut off from the rest of the world. In the early 1960s, Israelis of my generation were eager to seek ways to find out about the world.

BG: How did you learn about the Columbia-Princeton Electronic Music Center?

TA: Once I arrived in New York, somebody arranged a meeting with Edgard Varèse for me. He asked me, "What can I do for you?" He listened to a few tapes of my work and said, "It's very good. You are a composer. Do you want to learn my tricks? Go find your own tricks! Go to Columbia University." Varèse then spoke with Luening, who met with me, listened to a few of my compositions, and spoke with Ussachevsky. Ussachevsky enrolled me in the course of study at the Columbia-Princeton Electronic Music Center.

BG: With whom did you study at Columbia-Princeton?

TA: Vladimir Ussachevsky was our teacher. We didn't see much of Otto Luening. Mario Davidovsky was already quite a dominant figure and already a veteran. The technical instruction, though, was done by Andres Lewin-Richter. The students that year (1963-1964) included Walter Carlos, Ilhan Mimaroglu, Charles Wuorinen and Harvey Sollberger. We met once or twice a week for a couple of hours. We would analyze pieces and speak about them. Then Davidovsky and Lewin-Richter would teach us the how-tos. Individual work was with Lewin-Richter. Later, at the end of my time at Columbia-Princeton, when I was finishing my work *Vocalise*, they gave me the keys and I would stay on my own all night long.

BG: What recollections do you have about Vladimir Ussachevsky?

TA: Vladimir Ussachevsky was a very kind and nice person. He was of course one of the pioneers in the field, and when I was with him, he was already summing up his life's work. He was much more into concrete sounds than electronic sources, even though he was the one who developed the RCA synthesizer lab. He was a founder of the basic language using splicing and other tape techniques. He was also a more conservative musician than the students, such as Mario Davidovsky and Charles Wuorinen, who were very much into serialism and other approaches.

BG: What did you learn from Mario Davidovsky?

TA: Mario Davidovsky is a very bright person and a gifted musician, one with very definite opinions about what is right and wrong in music. Structure and accuracy are very important for him. Not a fan of loops, he thought very carefully about sounds and how they were worked out and placed in a piece.

BG: What other recollections do you have about Columbia-Princeton?

TA: It was a time of trial and error and everybody was looking for new ideas and techniques in order to find a language for themselves. I remember playing my *Vocalise* to Walter (later Wendy) Carlos, who was highly enthusiastic about the piece. Altogether, I worked in the studio for a year and a half. Babbitt was already working with the Mark I Synthesizer and we were invited once to see that instrument. It was as big as a room. It seemed to us like the eighth wonder of the world because we were used to do everything manually by splicing, mixing, filtering, and so on, but this wasn't necessary with the Mark I.

BG: What was it like for you to be in New York City?

TA: This was a fascinating period for me. Karlheinz Stockhausen and Pierre Boulez were there. Everyone came to the Hunter College concert series. It was a dramatic time in the whole world. When I was at Tanglewood during the Summer of 1963, right before I came to Columbia-Princeton, Aaron Copland said to me, "When you get back to Israel, it will take you a while to return to yourself from the confusion of your time here."

BG: Did you visit other places while in the United States?

TA: During that year, I also spent a month working with Myron Schaeffer at the University of Toronto, on a scholarship from the Canada-Israel Foundation. This was two or three years before he died. He had the multi-track machine that Hugh Le Caine had built. You could choose any loop you wanted for the mixer, and it had a keyboard. When I returned to Columbia-Princeton, I told them about it. Mario Davidovsky said that that if it had a keyboard, it wasn't for him.

BG: Did you have contact later with any of the people you met at Columbia-Princeton?

TA: The only people with whom I met many years after the course was Mario Davidovsky, who visited Israel a few times, and, once, Ilhan Mimaroglu, who seemed very frustrated with music.

BG: Tell me about your electronic work *Vocalise*, which you composed at Columbia-Princeton.

TA: I remember hearing the sounds of the subway and this gave me the idea for the first sound in Vocalise. This was the period following President Kennedy's assassination—quite a tense time in the world, a time of international concern. I think that the general atmosphere goes into everything people do, quite aside from compositional technique, such as splicing and mixing.

BG: What about the formal structure?

TA: *Vocalise* is principally a sonata. It has two themes: the voice and the electronic sounds. After they are introduced, they go through a series of variations, and at the end, there is a brief reprise. I didn't speak of the work as a sonata at the time because it was too conventional a category. But times change. In the development—the middle section—the material gets very tense. All of the sounds build up and reach a climax, almost like an explosion. I didn't mean to imitate the sounds of an explosion, but I wanted a build up of something that was very tense. I had recently read George Orwell's novel 1984, and was thinking about some of the forces and trends that were affecting modern society negatively.

BG: What were the lasting influences of your studies in electronic music?

TA: I think that my experience with electronic music changed much about my approach to musical thinking, and it remains with me even today. I became involved in more abstract ways of thinking about sound, not only as a component of harmony or melody, but as something with its own meaning. And of course, my mind became changed about noise, its qualities and possibilities. While we in Israel were influenced by impressionism, I learned about a new way of approaching texture in New York and I encountered new, less linear ways of looking at development. My earlier works were generally in Classical forms, such as rondo and sonata. What I learned about electronic music influenced my later works, and not just those with electronics.

BG: You mentioned Aaron Copland's comments about what it might be like to return to Israel. What was your experience like?

TA: Indeed, after returning home from Columbia, it took maybe two or three years to adjust. The work that I completed a year later, *Meditations on a Drama* for chamber orchestra, was the product of collecting myself and assimilating the new ways of musical thinking that I learned at Columbia. You'll find in it some influences from electronic music. I began to explore more open forms and I was much freer and more abstract in my formal thinking. This work was a big first step towards a more amalgamated approach for me.

BG: What electronic music works did you compose after Columbia-Princeton?

TA: I composed *Collage* for voice, flute, percussion and tape (1967) three years after returning from New York. *Lyric Episodes* for oboe and tape (1972) was composed originally for a ballet. It was included on a Folkways recording of electronic music from Israel in 1981. I composed *Synchromotrask* for female voice, tape and a door in 1976, *A Monk Observes a Skull* for mezzo-soprano, cello and tape in 1981, and *Five Variations for Mr. K.* for percussion and tape followed in 1982. I think of *Vocalise, Collage, Lyric Episodes* and *Five Variations for Mr. K.* as the most important of these works.

BG: What was the influence of Columbia-Princeton on how you taught electronic music?

TA: When it came time for me to put together a studio at the Jerusalem Academy, the model in my mind was Columbia-Princeton. I gave a weekly lecture with examples from works, which we would analyze. We would listen to music of different types. We also had a technician who worked with the students. It was the most logical approach to take: to work with the students more theoretically and then give them a chance to try and create a piece. They had to do this at the end of each course.

Every student at the Academy had to take the electronic music course. This became the policy when I was the head of the theory and composition department. Some were less enthusiastic than others, but students created all sorts of pieces, some of them even funny. I believe that students should have the experience of composing all types of music, including twelve-tone, and gain some degree of understanding.

Bob Gluck is a composer and historical writer. He is on the faculty of the University at Albany, where he directs the Electronic Music Studio. Gluck serves as Associate Director of the Electronic Music Foundation. For more information about Tzvi Avni and electronic music in Israel, refer to Gluck's "Fifty years of electronic music in Israel," *Organised Sound* 10(2), Cambridge University Press, 2005 and "Electronic Music in Israel," EMF Institute, 2005. On the web at http://www.emfinstitute.emf.org/cgi-bin/ireading_search.pl?keywords=articlesmaterials.