

Jeanne Bamberger – Vignettes from 1974-1976

By

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“...the sense made of phenomena is always a construction – a conversation back and forth between material and its viewer/hearer – each of the individuals finds in the material and thereby gives existence to aspects that simply do not exist for the other.”

-Jeanne Bamberger, *The Mind Behind the Musical Ear*, p. 29.

When I received the invitation to write an article about Jeanne Bamberger and her work, I wrote her an email saying that I had not written an academic paper in many years. Her response: “Just tell stories.” I think her response speaks volumes about her own eloquent research and modus operandi over the past 40 years. She observes the details and then tells us the story. She chooses music examples and tells us about the design. Along the way, her examinations allow us to glimpse the workings of the human mind through that dynamic mirror of human culture, expression, and design - music. In accordance with the quote above, these snapshots of her will reveal my own subjective view of the Jeanne that I found and thereby “gave existence to” in my own mind over 35 years of knowing her.

The title for one of Jeanne Bamberger’s books is a lesson in itself – *The Mind Behind the Musical Ear*. The subtitle of the book, *How Children Develop Musical Intelligence*, is a second lesson and is not only about children. The assumption is that children, and other people, have or can develop musical thinking and that musical activity is not necessarily an inherited condition

we sometimes erroneously call “talent.” Musical intelligence can be considered a mode of thought as much as mathematical, visual, or linguistic modes of thought.

Between 1974 and 1976, I was an undergraduate in Jeanne’s classes as a cross-registered Harvard-Radcliffe student. In my specially designed music major, the root research question was “How do we make sense of and understand music?” Jeanne’s investigations into the nature of music and the mind at the Logo Lab and the Division of Study and Research in Education at M.I.T. were completely aligned with my own research, so I spent as much time as possible in her presence during those years.

Jeanne Bamberger has made an art form of ways to watch, listen, and learn from the most subtle details; how to observe and describe what happens; how to observe the uniqueness in each person’s actions and learning steps. Through these seemingly fundamental methods, she has demonstrated the capacity to reveal detail about the workings of the human mind. Observing how and when an eight year old chooses a Montessori bell while building a melody may reveal how we create something we call a song, a fleeting experience of time and space in a medium we call music. It may also reveal the ways we perceive those experiences and how we choose to focus our attention. Jeanne’s methods enable us to capture snapshots of discovery. Through observation and description of fine details, Jeanne’s research has brought to light the ways we perceive and represent time and space to ourselves, how we use and understand language, notation, signs and symbols, metaphors, and ways we negotiate paths of communication with each other.

Upon meeting Jeanne Bamberger, one is struck by her indefatigable curiosity, often sprinkled with playful humor. She is an ordinary person with extraordinary thoughts. I am sure

that Jeanne's natural friendliness has played a role in her success in drawing out so many children, their teachers, and research associates.

Stories from the mid 1970s cannot be told without mention of socio-political movements still settling from the turbulent 60s. The main issues were equal rights for African-Americans, which had folded into equal rights for women, which ushered in the beginnings of affirmative action and gender politics in general. The role of the growing mass media in raising widespread consciousness of these issues was also crucial.

For me personally, it was great fortune to find a second supportive woman professor. My interdisciplinary music major advisor at Harvard was Professor Luise Vosgerchian. Her generosity of spirit in the act of teaching and "embodying one's subject," in addition to Jeanne's, had a deep influence on my own approach to teaching and living a musical life. While I also had male teachers and professors who were supportive in their own way, the women professors I studied with took the commitment to their students to an entirely different level with regular one-on-one meetings, follow through with all academic work, and follow through toward career goals. Perhaps my finding Jeanne Bamberger could best be attributed to good luck or good research, in that I had found a story in this journal in 1972 about Harvard Project Zero. I applied for and obtained a job as a research assistant there for two years, and because I was a musician, was referred to Jeanne's research in music by its co-director, Dr. Howard Gardner.

Jeanne's Class: Tuneblocks

In 1974, the Logo Lab at M.I.T. was located on one of the upper floors of the 545 Tech Square building behind the main campus. Riding my bike to class from Harvard Square's ivy covered red brick down the entire length of snow-covered Broadway to M.I.T's monstrous scale

white and gray architecture was change enough, but walking into modern fluorescently lit halls in a laboratory was an almost space ship experience.

Early in Jeanne Bamberger's class about music and perception, she took a handful of us to the Logo Lab, where researcher Seymour Pappert used a large empty room to set loose a group of objects about the size of shoes ("turtles?") scurrying around in different directions on the floor. They were small robots controlled remotely from elsewhere. I was admittedly bewildered by this research in Artificial Intelligence, but I stayed engaged because of Jeanne's dual role as a hands-on concert pianist as well as a computer-oriented music researcher.

In the spring semester of 1974, there were about six or seven of us - a few M.I.T. undergraduates and a few graduate students. Part of my class time consisted of sitting independently in a windowless room with a child from the Cambridge Public Schools and taking copious notes about his activities with a computer keyboard and two speakers on the walls. The children, ages 8 or 9, played with what Jeanne called "Tuneblocks." For example, when the youngster typed the number "1," the first 3 notes of Hot Crossed Buns would play in the speaker. Then with "2," the "one a penny, two a penny" phrase would play. I was directed to say something like, "Can you build the song Hot Crossed Buns?" or I might be asked to say, "Can you build a song with these?" Jeanne had made it clear that the exact wording of the question was crucial. The wording of subsequent questions was also important.

The most important part of our work was to observe every possible aspect of the child's actions, behavior, and even facial expressions, as well as absolutely anything the child might say, which we were to record with exact wording. Jeanne viewed these simple phrases from children as a window into how their minds might be working. However, she never made assumptions or projections about their processes of thinking.

These observation sessions were often followed by long philosophical discussions that spanned several hours after class in order to decipher what the children had done that day. We analyzed their responses in these discussions and searched for the best questions to ask that would draw out the youngster's reasoning and strategies with the tunes. I was actually "sitting in" with Jeanne and her graduate students during these discussions, but they made me feel quite welcome. Students taking the class were assigned papers to compile observations of the children's activities with the music computer games that Jeanne and colleagues had constructed. These games, unlike today's computer games, were all aural, not visual.

Leonard Bernstein Story: 1973-1975

To my great fortune, Leonard Bernstein was present at Harvard during my sophomore and junior years between 1973 and 1975. He was writing and offering his six Norton Poetry Lectures, "The Unanswered Question." He was also exploring the linguistic aspects of music, questioning the role of tonality versus atonality in Western music, quoting Noam Chomsky, and facing down the criticisms of the academics at both Harvard and M.I.T. for doing all that. One day in class, Jeanne mentioned to me that there would be a high level closed seminar with Bernstein and the professors of Harvard and M.I.T. At the last minute, I quietly squeezed in the door just after the session had begun. I was able to witness the heated questioning of Bernstein's ideas by the professors. He apparently withstood the session well, and, being Leonard Bernstein, with the highest standards of integrity, he added a semester to his stay and took more time to refine the talks. His extended stay added to my own educational gain, as I also snuck into his weekly seminar on opera with four graduate students at Harvard.

Whatever she may have questioned him about at that time, I am sure Jeanne would have probably concurred with Bernstein about the philosophy of exposing listeners to many genres of

music. At that time, it was unheard of for a classical musician of Bernstein's stature to give any credibility to popular (rock, jazz, folk, "primitive") music. Jeanne Bamberger's and Howard Brodsky's *The Art of Listening* textbook pioneered the inclusion of a variety of musical genres to help teach college age listeners about musical form.

Jeanne's Class: The Role of Metaphor in Learning and Design

In 1975-76, I took a class Jeanne taught with her colleague Don Schon, who had a dual appointment in the Department of Urban Studies and Planning and the Division for Study and Research in Education. The class was entitled "The Role of Metaphor in Learning and Design." In this class, metaphor was examined in depth as the way language itself transmits information. We asked questions such as: What constitutes a description of something? Bamberger and Schon were exploring the how of exploring. They were trying to decipher how the mind translates an experience into a description and how that description is transmitted to another person. This was at the heart of research in education.

Jeanne's Influences

The deep questioning of Bamberger's and Schon's work set into motion a perpetual line of questioning throughout my musical life and has probably made me a rather unconventional music teacher. After working with Jeanne and her research, her method of observing students became the predominant influence in shaping my own style of teaching, be it with youngsters, college-age, or adult students. It is completely process-oriented. She demonstrates the importance of observing the details of students' actions to help guide the learning and teaching process. As a teacher today, I observe the student's activities with the music and allow their actions to guide each step of my showing them new things. In a sense, every student is my "research subject." Because of this, while I enjoy teaching advanced levels of music, I could also

call myself a “beginner-ologist,” one who enjoys observing and solving the problems encountered by beginners.

I suppose this is not exactly “teaching” in the conventional sense. Many times, students are mostly focused on learning to play a song as an end product. Process-oriented teaching, on my part, is an intensive kind of witnessing. I then try to use the child’s unique activities to lead us into relevant musical topics. For example, a child might spontaneously play a tune on the piano. I might say, “Would you like me to help you write down the song you just created?” Or children often ask me “Can you help me write down my song?” In response, I might ask them, “How about if you try putting it on paper first, and then I will help you add to that if you need it...” I then watch what aspect they are focusing their attention on in their drawing. If it is appropriate for the child’s curriculum to translate it into traditional music notation, we will do that with music letters (A,B,C,D,E,F,G) and finger numbers on their instrument. If not, I try to follow their line of thinking to the place it naturally leads – perhaps a fantasy story about a dragon. Dragons can be excellent music teachers, too.

In sum, Jeanne Bamberger’s life-long dedication to studying the process of learning and communication may have set the stage for new learning modes we have yet to know, as research into brain chemistry and the human mind continues to unfold in new ways each year. My lasting image of Jeanne from the 1970’s in her office at M.I.T. will always be one of her sitting behind her large wooden desk, tilted all the way back in her rolling professor’s chair, feet propped up on her desk, on the verge of springing a new thought. This is continually punctuated by small eruptions of laughter as we exchange ideas. For me, this is a strong reminder that, above and apart from new information technologies, at the root of the best learning and teaching is generosity of spirit and joy.