20 Years of Collaboration with Martin Riches

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When asked to write my reflections on my collaborations with Martin Riches, the first thing I did was go to the filing cabinet and take out the Riches file, which I found is now seven centimeters thick. One can accumulate a lot of letters and drawings and photos and sketches in 20 years of collaboration, especially when one collaborator lives in Berlin, the other in Paris, and meetings are infrequent. Our work is thus rather well represented on paper, and I must say that this pile of documents brings much satisfaction and many good memories today.

One of the oldest items in my Riches file is a photograph of me and Martin in 1983 standing behind the Flute Playing Machine, with one of my *Reversibles* passing through the instrument. This was our first collaboration, and one of our most successful, and it continues to be on the program almost every time Martin shows the Flute Playing Machine.

The *Reversibles* are written on transparent acetate sheets, and are read by the instrument's photo-electric eye. The black markings on the transparent sheets trigger off messages describing when to pass air from the little wind chest up to the carefully engineered mouthpiece of the robotic flute, and when to activate the metal fingers. Each of the eight sheets passes through the machine forward and backward, then turned over, forward and backward again, producing four very short related pieces. Musicians learn very early that you can run a melody in four directions. In counterpoint classes they call this the original, the inversion, the retrograde, and the retrograde inversion, and they show you how J.S.Bach often turned his melodies upside-down or backwards or both. Composers of 12-tone music habitually turned their rows in all four directions, and in fact, this is a pretty common technique in many kinds of music. All of this flipping becomes quite different with the Flute Playing Machine though, because here the manipulation is so visible. When Martin shuts off the motor, shifts his machine into reverse gear, and sends the acetate sheet back in the other direction, you can see, as well as hear, that the music is the reverse of what you just heard. Then, when he takes the sheet out of the reader and turns it over, it is obvious that it can run back and forth under the photo cells once again and produce two more variations of the same music. In Paris, when I play a recording of the *Reversibles*, without the presence of the machine, listeners hear that the four 30-second movements are related, but they never really grasp the geometry of the music the way they do when they can actually see what is happening. The Flute Playing

Machine is not simply a way of producing this music, it is an integral part of the music. As with all the most successful collaborations, one can not separate the contributions of the collaborators without losing something important.

(Photo. Martin hat diese Photo und auch drei andere von 1983. Vielleicht können wir eine Photo mit jeder Ubersetzung benutzen? Photo(s) kann auch vor dem Texte sein)

Many pages in the big file pertain to my *Eight Pieces* for Martin's *24 Piece Percussion Installation*, first presented in the Akademie der Kunste in Berlin in 1994. For that occasion the wood blocks were spread out in a line some 30 meters long, and the music often passed down the line with the speed of a fast train. Even Rossini's music never moved quite that fast. Almost as satisfying as these sound sensations, however, are some of the little drawings that represent the scores, one of which we reproduce here.

(or change to "two of which" or "three of which." Ich schicke drei beim Post)

Much could be said about this installation, about how it can be set up in different spaces, about the music itself, and about how listeners react, but what seems most important still today is simply the way it works. What most surprised me when I arrived in Berlin for the first presentation of this piece was not what I saw but what I did *not* see. There was nothing to read a punched tape, like with player pianos, nothing to wind up, like with music-box systems, and no computer in sight. All I could see was a power cord going into a small transparent box. Eight buttons were mounted on top of the box, enabling the listener to select which of the eight pieces they wanted to hear, and at the side there was a little on-off switch, and that was all. How did the wood blocks know when to knock?

Getting programs to run at the speed you wanted was still a problem in the 80s, when Martin began programming music for his machines, so he learned the Assembler language, which kept the logic close to the machine level and optimized the speed. You can run such programs on a small old Atari, but even this was not necessary, because the program had been burned into a chip, which is to say it was hard wired. All the logic necessary was right there on the chip, so the computer could be eliminated. I suppose I should not have been surprised. By this time one could already find lots of information programmed onto plastic cards, and everything necessary to play "Happy Birthday" right there on your birthday card, so it was obvious that small specialized micro-circuits could be programmed without having a whole computer, but I had never seen an artist work in this way. Martin's solution was most elegant: no computer to be broken or stolen, and the installation was completely self-contained, controlled only by its own customized brain.

My Riches file contains many references to our collaboration on the *Chord Catalogue,* though this piece was not written in collaboration with Martin, but for myself as a pianist. The idea was simply to play all the 8176 chords possible in one octave, beginning with the two-note chords, the three-note chords, and so on, ending with the 11-note, 12-note, and 13-note chords. The idea is simple, but learning to get through the long list accurately, without repeating a chord, or omitting one, took me quite a few months of practice.

A mechanical problem of this sort is naturally tempting for someone adept at programming logical sequences, and already in 1985, the year the piece was first performed in Houston, Martin began adapting it to his Sound Machine, which can be described as a small mechanical pipe organ. Of course, I thought I played the *Chord Catalogue* better than any machine would, and it is true that audiences will listen far longer to a list of this sort played by a human being rather than by a machine. On the other hand, once the Sound Machine was programmed, it played faultlessly, which was not always true of my own performances, and it could go quite a bit faster as well.

Comparing the machine to the human being is not really a fair contest, but when Clarence Barlow told me that he had also programmed the *Chord Catalogue,* using the modern digital player piano, the Yamaha Disklavier, it seemed to me that this would be a most interesting contest. Invited to organize a series of programs at the Podewil in Berlin in 1994, I arranged for both Martin and Clarence to set up their machines, so we could have a complete mechanical performance of the *Chord Catalogue,* in which the audience could compare the performance of two machines. Of course, the Yamaha did a pretty good job, but it was actually not as fast as Martin's machine. Trimmed down to a little box of only the 13 organ pipes necessary for this piece, the little Sound Machine ripped through the chord sequences with a speed and articulation clearly superior to the Disklavier. More embarrassing for the Yamaha, with its expensive digital technology was that it was not able to play more than the first half of the piece. The Disklavier at that time did not have enough real-time memory to play chords with more than eight notes, so the big expensive piano was obliged to leave the more complex second half, with the big chords, to Martin's small homemade machine.

Other drawings and scores and letters in the file pertain to our *Do it Yourself* installation with tubular bells in the Parochial Kirche in Berlin in 1999. Here eight tubular bells, each with a little blinking light, become an instrument anyone can play. All you do is tap the right tubular bell just at the moment when its light goes on. For this situation I wrote a melody consisting of eight notes, corresponding to the eight bells, played in order from left to right. The melody is 24 beats long, so if a second player begins on beat 9, and a third player begins on beat 17, the result is a canon in which one hears one bell on each of the 24 beats. If you have enough players you can thicken the texture into a 6-voice or 9-voice canon.

x				x	x	x			x	x	x			x					
							x			x	x	x			x	x	x			x
												x				x	x	x	

x				x	x	x			x	x	x			x					
							x			x	x	x			x	x	x			x
	x	x	x			x						x				x	x	x	

(oder die Noten, die ich beim Post schicke)

It was not until 2002, working on the large *Tilework* series for solo instruments, that I really understood how to compose things of this sort, but this was the simple beginning of that idea. Many of my composing techniques have begun with a simple geometric logic that is relatively easy to see and understand. *Nine Bells* and *Symmetries*, as well as *Do It Yourself*, are all examples of this. Later I was able to take the ideas I found in these visual contexts and apply them to more abstract projects in less obvious ways.

One thing I can't find any trace of in the whole seven-centimeter file is our *Theme Music* for the Atelier de création radiophonique. This, however, is by far the most widely heard of all our collaborations. For some 10 years it was played at the beginning and end of a well-known program aired every Sunday night on Radio France. As the Atelier was about to begin, we heard a little fanfare, triumphantly tooted by the Sound Machine. After a clap of thunder and a flutter of pigeons flying away, the Sound Machine signaled the importance of the broadcast that was about to begin by playing a furiously fast diddle-diddle-diddle music, following a strict logical sequence:

1213121412131215121312141213121612131214121312151213121412131217

I don't know if you can follow the structure of that just by seeing it, but the ears recognized immediately that the notes were right. Even as the announcer's voice read the credits for the evening's Atelier, we sensed that the lightening fast melody was following an inevitable course, propelling the program on to its destiny.

I sometimes wonder why my collaboration with Martin Riches has been more successful and longer lasting than other collaborations. I have also worked jointly with choreographers, stage directors, instrumentalists, writers, and even an engineer, and sometimes the results have been fine, but the work has never continued for very long. In those cases my collaborator and I would find that we could work together for a specific project, sometimes two or three projects, but then the collaborations would come to an end and we would go back to our independent work. But it's different for Martin and me. We always come back together. Sometimes a period of several years passes, when we have no occasion to work together, or even to meet, but then, when some

occasion brings us back together, we always find that our heads are as close together as before.

The glue that holds us together, I think, is our love for mechanical, predictable, automatic processes. Even when I write for piano or for orchestra, I often want my music to follow an inevitable path, following its own intelligence, following growth patterns already established in the first measures of the piece. This is somewhat related with the non-intentionality that was so important for John Cage, though in Cage's case the personal intentions were replaced by chance operations rather than by formulas, algorithms, and other forms of deterministic logic. Naturally the deterministic, the inevitable, the logical sequence, is greatly appreciated by someone who has built as many clocks as Martin has, and he wants all his machines to keep perfect time in their own ways, running smoothly and predictably. Both he and his machines are more at home when someone like me gives them some software that somehow has that same mentality.

But let me not give the impression that working together has always been easy and successful. My Riches folder also contains a lot of information about failed attempts and unfinished projects, and of course, letters expressing differences of opinion, but there is a remarkable agreement about most things. Martin's machines and my music generally have a basic affinity for one another, because both are essentially transparent and rational beasts. One can see immediately how they are working and what they are doing, and often one can even predict what they will do next. Instead of going for unexplainable mystical truths, we are both quite happy with phenomena that can be explained, with machines that work, with progressions that come out the way one expects. Of course, finding a way to do this is often not obvious at all, and sometimes the acoustic results are quite difficult to explain – perhaps even mystical in their own ways.