I WANT TO FIND THE MUSIC, NOT TO COMPOSE IT

Tom Johnson

Die Platonisten nehmen an, die Zahlen existierten unabhängig von der Gattung Mensch. Es habe sie gegeben, bevor der erste Mensch erschien, und sie würden auch dann noch existieren, wenn der letzte Mensch längst von der erde verschwunden ist. Heute jedoch sind viele Leute überzeugt, dass die Zahlen aus komplexen gesellschaftlichen Tätigkeiten entstanden sind und nur deshalb als zeitlos erscheinen, weil sie zu einem untrennbaren Bestandteil der Sprache geworden sind.

Paul Feyerabend, *Lettre International*, Sommer 1994

The argument is well known in mathematics, and the debate is almost scholastic today. The idealism of the Greeks became harder and harder to believe, as mathematical theorems became more and more elaborate, and by the 19th century, it began to seem that even mathematical truths are only relative. Today it is possible to explain light either as pure vibration or as a question of materially transmitted photons, and we are not sure of much of anything, even in physics and biology. Recent research in fractal structures has revealed cases where extremely innocent looking equations produce chaotic results when run through the computer a few hundred times, leaving us in doubt about simple arithmetic as well. So no one thinks much about "pure" number, and it is rather easy to find writers such as Feyerabend, who seem content to abandon all absolutes, and to place mathematicians and scientists in the same category as artists - i.e. a category of people who are simply playing with theories of possibilities in realms where we will never really be sure of anything.

Music too poses this problem. It seemed obvious not only to the ancient Greeks, but to music theorists in many other cultures as well, that the

interval of a fifth, 3:2, was a given and that the various tonal and modal systems of the world came out of this, but as the centuries passed, it became apparent that there were countless ways of explaining and composing music, and that all of them were more or less valid. To what extant have musicians really discovered a natural music, derived from absolutes like 3:2, and to what extent did they simply make it up? In the case of a symphony, the music is obviously fabricated by a human being, and is not something that one could ever simply find in nature, but in other music, and particularly in some recent music, this is not the case at all. It is even possible to view some present day composers as Platonists in this sence.

John Cage was particularly anxious to go beyond his personal tastes, to overcome his own subjective choices. This led him to his search for chance systems, for ways of allowing his musical sounds to be selected by means that he could not directly control. I personally was much closer to my teacher Morton Feldman, who had a similar goal, but went there in a very different way. "Let the music do what *it* wants to do," he advised me time and time again. It was not a question of a system. It was not a question of allowing musical choices to be made by an exterior logic. He did everything by himself, listening painstakingly many times to every sequence he wrote, every chord, gradually making choices between all the possibilities that arose. But his criterion was never "What do I want." It was always a matter of standing aside, trying to hear what the music wanted, trying to let the music compose itself.

Many composers in my own generation have taken other routes toward much the same goal. Consider the *Pendulum Music* of Steve Reich, in which one simply lets a microphone swing over a loudspeaker, allowing periodic feedback sounds to be produced however they will. This seems to me to be a particularly good example of a music that was *found* rather than composed, and if one sets it up well, the results can be as wonderful as any of the music that Reich later *composed*. Or consider a choral piece of Pauline Oliveros, where she simply stood before the audience and told us that we were all invited to meditate on the subject and to sing "oo" if we wanted to. With her own singing and her own intense image in front of the audience, the majority of the listeners gradually began to contribute to what was an extremely lovely choral sound. This was not a composition, and not really an improvisation either. We were just there, letting the music do what it wanted to do, and I think the event might have been as effective in a

prehistoric village as it was with this New York new music audience, and in fact, it was not so different from what birds and crickets do all the time. Or consider Alvin Lucier when he reads "I am sitting in a room..." and permits the feedback loop and the particular room acoustics to do whatever they do. Or consider Paul Panhuysen, when he stretches long wires across a lake, allowing the uncontrollable temperatures and winds to play them. Or consider the late Jerry Hunt, who knew how to make sensitive little electronic devices in such a way that even he did not know when they would be triggered off or exactly how they would sound. Or Julius, who spreads his little door buzzer devices around the space, letting the fragile wiring and batteries churn out their unpredictable rhythms.

This general way of working reminds me a bit of what we used to call "process music." In all these cases the "composers" are not really composing so much as simply letting music arise out of circumstances that they can not personally control. They are finding music which somehow already exists. Is this not a kind of Platonism? Is this not a search to find a kind of music that existed, or could have existed, before the advent of human beings on the earth?

I must hasten to add that music which is "found" is not usually found easily. I know from experience, and I suspect that all the people I have mentioned would agree, that it often takes much longer to *find* a good piece than to *compose* one. I have no doubt that the "found objects" of Marcel Duchamps also cost this artist as much effort as any of his paintings.

I too like to find music that exists outside myself, rather than to compose something that is inside myself, but I am looking more in the direction ofi mathematical models. When I work with a logical sequence of numbers, or a set of permutations, or Pascal's triangle, or a logical sequence of geometric turns, or with the paper-folding formula, I have the feeling that I am working with absolutes. Es hat diese dinge gegeben, bevor der erste Mensch erschien, und sie werden auch dann noch extieren, wenn der letzte Mensch längst von der Erde verschwunden ist.

The first music I produced that I hesitated to call a composition was the *Chord Catalogue*. The piece consisted of all the chords possible in one octave, played one after the other, and the first performance was a two-hour concert on a small organ at the New Music America festival in Houston in

1985. I had rehearsed a great deal, and could play the long sequence correctly, but I had not actually written the music out, which is perhaps one reason why I offered the following program notes:

The Chord Catalogue *consists of the 8178 chords possible in one octave. It is really just a list. The chords are simply stated, in a logical sequence, rather than being composed, and the main concern of the piece is to remain open to all sounds, all harmonies. It is fine to have personal preferences, and to feel that some sounds are more beautiful than other sounds, but it is also good to realize that there are an enormous number of possible chords, and that each one has something just a little special about it.*

I had never claimed to be *not* composing before this, because I had always felt that I was *composing* before this, but in retrospect, there was not very much composing in the *Rational Melodies (1981)* either, or even in *Nine Bells (1979)*.

The *Rational Melodies* were completely written out, yet there was a relentless logic in each one. After a few bars, the sequence had begun, the rules were clear, and the rest of the piece was inevitable. I did not even listened carefully to every note, the way Feldman would have, questioning the validity of every turn. I simply searched for additive sequences, isorhythmic sequences, doubling sequences, and other kinds of logical sequences, until I found something that produced a melodic sequence I liked. And it really was a case of *finding* something. I was hardly the inventor of 1, 2, 3, 4... or 2, 4, 8, 16... or of the retrograde and isorhythmic principles, and I wasn't really inventing anything. I did have to make a few subjective choices when I selected scales, and when I decided how long to let things go on, but basically I was just writing down interesting things that I happened to *find*.

Nine Bells was a similar case, though here, as I walked around my bells, the logic was more geometric than arithmetic. It is often easier to see logic than to hear it, and easier to visualize the rotations around a circle than to calculate a note sequence, and I managed to find a strict and audible logic for each of the nine movements. Later, when performing this piece, I sometimes had a very strange sensation. As I played the first note, stepped off on my left foot, and began the first cycle, the experience was very

different from that of playing any other kind of music. It was the feeling of beginning something completely inevitable, something I could not stop, and it was clear that my feet were going to carry me on through the sequence, even if my memory failed, or if fatigue set in, or if the audience all walked out. I was a kind of puppet being driven by some inevitable geometric-musical logic that had little to do with my own will power. One could say that I had become merely a machine, but it was a very agreeable experience.

In retrospect, it is easy to see that this piece had to come before the others. I probably would never have found my way to the *Rational Melodies* and the *Chord Catalogue* if I had not first spent a lot of time walking around in the geometric world of *Nine Bells.*

One recent project has brought me particularly close to the idea of finding music, rather than composing it: *Pascal's Triangle Modulo Seven.* Like most of my pieces, *Pascal's Triangle Modulo Seven* is exactly what the title says, and what one hears is literally Pascal's triangle, reduced to a 7-note scale:

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 3 3 5 1
1 6 1 6 1 6 1
1 0 0 0 0 0 0 1
...

In this case I gave up personal control even more than before, in the sense that I decided to allow my computer to play the music without me. This would have been quite possible with the *Chord Catalogue* as well, and in fact, both Clarence Barlow and Martin Riches later did computer controlled versions of this piece, and it was perhaps the success of these arrangements that convinced me that human performance would not be necessary here. Things that can be done better by machines are better done by machines. Of course, there is a problem when one tries to present machines in concert halls, and my home synthesizer is not as interesting for people to watch as Martin Riches' wonderful instruments, or one of Clarence Barlow's

Disklavier concerts, so I decided to realize *Pascal's Triangle Modulo Seven* as a radio piece. As I write this, production is already underway, and *Pascal's Triangle Modulo Seven* will soon be an Atelier de création radiophonique, for a Sunday evening broadcast on France Culture, a production that will also include comments by the mathematician Jean-Paul Allouche.

I can not say that I always manage to *find* my music. Sometimes it still seems necessary to *compose* it, particularly when I want to produce another opera. I can say, however, that there is something particularly satisfying about projects where the logic (the music) seems to arise naturally from some discovery outside of myself, and where everything comes together with a minimum of tampering (of composing). There *are* absolutes, regardless of what Feyerabend thinks, and while it may often be difficult to find them and see them and understand them, we can at least hear them, when the circumstances are just right.