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TARA RODGERS - INTERVIEWED BY CORINA MACDONALD

Submitted by Corina MacDonald on Thu, 11/15/2007 - 12:00

of all the gin joints (excerpt) / 1:00
butterfly effects / 9:05
[mp3 .zip archive / 8MB]

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Tara Rodgers is a composer and musician who is currently based in Montreal. Tara's educational background is in electronic music production and she has used that knowledge base to inform a variety of recording and installation projects. Recent work has explored the use of the programming language SuperCollider as the basis for generative composition. Tara is currently working on a PhD in Communication Studies at McGill University as well as compiling a text, *Pink Noises: Women on Electronic Music and Sound,* which has grown out of a webzine that she founded in 2000. Corina MacDonald interviewed Tara on behalf of Vague Terrain.

Vague Terrain: Your work involves the creation of dynamically generated compositions that model biological, physical, social, and technological systems. What are the connections for you between system modeling and musical composition?

Tara Rodgers: Well, one reason I became interested in working this way was to experiment with compositional form. For many years I had composed music on piano, synths, samplers, and drum machines. My method was to record improvisations and then arrange those in a multitrack environment. I relied very much on my ears, intuition, and habit. When I started making computer music with SuperCollider, I was not particularly interested in replicating the methods I used with acoustic or MIDI instruments. Instead I wanted to explore aspects of computer music that are more

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unique to that medium. Making generative sound compositions based on large-scale systems was one way to do this.

In the piece that I made based on butterfly migrations, I was also interested in pushing ideas of acoustic ecology in a slightly different direction. There has been so much good work done in this area to promote environmental awareness through electroacoustic music composition, and much of it has used field recordings. I've increasingly found it harder to do interesting things with field recordings - for me, they can be so evocative of a specific place, it can sometimes be a creative limitation. Or if you work with environmental sounds that are very familiar, it may even discourage people from listening to them closely. So I became interested in working entirely with synthesized sound in SuperCollider, even to evoke "natural" environmental sounds. In *Butterfly Effects*, I tried to use synthesized sounds to play on the distinctions between what we hear as "natural" and "artificial", i.e., are you hearing rain, or synthesized rain? Some of Christina Kubisch's work has been inspiring to me in that regard.

VT: What have been the challenges and/or advantages of representing such systems using sound?

TR: It's important to be clear about it and say that my goal has never been to do "systems modelling" in the way that this term is often presented, as a scientifically accurate method. Even the data sonification pieces I've done, using census data, are less about creating an accurate rendering and more about critically questioning how we rely on data representations as "accurate". I'm interested in playing with metaphor, and doing mapping that is conceptual.

For example, in the butterfly piece, I isolated some core behaviors of migrating butterflies, like clustering together to conserve energy, and flying only at certain times of day. I tried to find ways to map these ideas onto the sound design, and how those sounds evolve and interact dynamically in the composition. In another project I'm starting in collaboration with Owen Chapman, I'm developing some effects processors in SuperCollider to use with a sound sculpture made of melting ice. Our idea is to map the processes inherent to the ice, like melting and dripping, into the design of the SuperCollider objects.

I think an advantage of working this way is that one confronts the question of why to use digital technologies, or how to use them in a way that reflects on their context or places them in dialogue with other kinds of processes. We could just as easily build a sensor-based system where a drop of water triggers a sound, with different water pressures mapped to a series of pitches. To me that method can be conceptually too obvious, and sonically too predictable! I'd rather research the process of how water changes state, and see if there's something in those shifting formal structures that could make for an interesting computer program.

Of course, one of the criticisms of working this way is that conceptual work is more opaque to an audience, and requires some translation - wall text or program notes - to be fully conveyed. I try to make works that can be appreciated sonically first, but are also conceptually strong if people want to read about it. Another criticism is that this sort of metaphoric mapping is very arbitrary, which is fair enough, but what kind of music composition isn't? Even mapping techniques that claim to be scientific are not completely objective; or chance operations bear some trace of the person who made the system.

VT: Do you think the concepts of emergence and transduction, which you explore in these compositions, could be applied to electronic music making in general?

TR: For sure. There's a wide range of work already done on these themes. Just two names that come to mind: Andrea Polli makes multimedia works based on data sonification, with some similar themes to what I've been working on; from a different perspective, Eduardo Reck Miranda has written about computer music and emergent phenomena.

VT: When you set out to explore the unique properties of computer music,

was there a process of experimentation that led you towards generative composition?

TR: Not really. I think I was drawn to using a generative form partly for its usefulness in installations, because it seemed more interesting than looping a pre-made recording. I was also interested in using behavioral and ecosystem dynamics as inspiration for compositional form, and a generative structure seemed like a good way to go.

VT: Do you feel that programming your own tools is essential to exploring these aspects of the digital medium?

TR: No, there are many ways of working, and each person has to find what works well for each project. There are times when I use commercial software because it meets a basic need, and programming something similar would take so long, it's not worth it. But in general I enjoy programming my own tools because you gain a huge amount of technical understanding, control, and flexibility compared with using software designed by someone else. There are also advantages to designing software for a particular musical goal, as opposed to trying to bend a general-purpose commercial application toward a specific use. In SuperCollider, I also appreciate that you can work with language poetically, as well as functionally.

VT: To what extent do you consider the code or the software it is written in to be a part of the work?

TR: The code is an integral part of the work. In one sense, it's like a score, so that someone fluent in the language can look at it and have an idea of what is going on. But when I mention using the language poetically, I'm also thinking about how the code can be read like a poem, in addition to its functionality for computer music. I like that it has this dual potential.

VT: *Butterfly Effects* **is a dynamically generated composition. Do you set initial parameters in SuperCollider and then let the piece take its course? What kind of factors might affect its trajectory? And how do you decide when it is finished?**

TR: The piece has a lot of randomly generated sound parameters, spatial locations, and wait times between events. All of the sounds are interrelated, so that depending on what values are randomly chosen, different events unfold. Every sound represents either a butterfly behavior or an environmental condition. The piece starts with the "flapping" of a butterfly's wing, which triggers wind and a change in atmospheric pressure (represented by different noise synths). The degree of change in atmospheric pressure triggers a storm of varying intensity. The intensity of the storm affects how many butterfly sound objects "migrate" across the space later on. Butterfly behaviors - like clustering together or flying - are also triggered by the amount of sunlight at different times of the day, and all these things have corresponding sounds with randomly generated parameters. The piece can go on indefinitely; the limits I've placed on it have been based on the time it can be set up in a gallery space, or the length of an audio CD.

VT: Have you noticed any common patterns that emerge in each iteration?

TR: Yes, the program is written so that it retains a basic structure - the many randomly generated numbers have constraints, or specified ranges, so that the piece will always sound slightly different but not significantly so. It is also structured so that one "hour" in the synthesized environment is mapped to one minute in the composition, and so one "day" cycles through in 24 minutes. So if the piece plays for 72 minutes, you'll hear three consecutive cycles that sound similar to one another.

VT: Your work in data sonification calls into question the frame of reference of mapping techniques, contrasting for example those that make scientific claims versus those with artistic intent. I noticed that many of your pieces use data associated with migration and movement. Why this particular theme and how do you go about collecting the data that you use in these works?

TR: The migration pieces started out from personal experience. I had a few years where

I was moving frequently and traveling often, sometimes for good reasons and sometimes unpredictably or unpleasantly. I started thinking about species migration as a way to make sense of my own experience. Then, I've kept going on the migration theme as a way of considering more political issues - i.e., population shifts due to climate change, war and famine. I've tried a few different methods of data collection. I like gathering data from online sources, like the U.S. Geological Services website, the census or Statistics Canada. There is so much data online now, it's a great source of found material, and certainly many other artists are mining this as well. My sound and video piece *Places I've Lived and Travelled To* is a combination of personal memory plus geographical data; for this, I went through a process of remembering and compiling my personal migration path before I mapped the geographical coordinates.

VT: What inspires you when you are working on dancefloor-oriented music? Are there parallels with your more conceptual work?

TR: It's a completely different process. My interest in making house and techno is less about experimentation, and more about how to work within particular conventions. It's very much about the placement of individual sounds within a strict rhythmic structure, about layering different looped patterns, and creating variations on a theme. For other people these genres could be approached conceptually, but for me it's much more of an intuitive process.

I don't see too many parallels between this and my conceptual work, but maybe listeners would be better judges of that. I guess both kinds of work are different expressions of my love of synthesized sound! Also, sometimes it seems funny to me that the intuitive dancefloor music I write sounds algorithmic, and the algorithms in SuperCollider sound more organic. Maybe on a subconscious level I'm trying to walk along that boundary between machine generation and embodied expression.

Please visit safety-valve.org for more information on Tara Rodger's work