

**Conversation II****Rebecca Fiebrink and  
Laetitia Sonami***by Patricia Alessandrini*

*Note from the editor: I provided some questions as a basis for this conversation between Laetitia Sonami and Rebecca Fiebrink, who have been working together for several years in developing their own practices in electronic instrumental design, machine-learning software, and the intersection between the two. Some of this work has been developed in Laetitia's family home in Normandy, where I had the chance to observe their collaborative process.*

PA: What were your expectations in working together, what were your goals, and how did those goals drive your research?

LS: There were no expectations actually, which has been interesting: we didn't have any plans of research. Rebecca was already involved in her research, I became acquainted with the work she was doing and was really fascinated. It was a very organic process: she showed me what she was working on and I started thinking about it and thinking about designing a new instrument that would take advantage of the work she was doing. But even

in terms of the instrument, I had no idea initially. We didn't have any grants, we didn't have any support, so was just more meeting and discussing. I think it has been about three years now...

RF: ...more than that, because I was still living in New Jersey

LS: I think that process was very luxurious in a way because there was no deadline, there was no funding, it was more through a friendship, for me, really enjoying her approach and her ideas and enjoying being with her, that led to this organic friendship. I think that it was also, because I really didn't know what I was going to do it, the fact of working with someone who was not only curious but somehow trusting that there was something there. I had experiences of trying ideas with other people and they would say, 'well that's not going to work', whereas Rebecca would say 'maybe, I don't know, let's see'. That's kind of Rebecca's mantra, 'I don't know, let's see'. [Laughter] So in that way it was very unusual, because it was not institutionalized, it allowed for this kind of really free approach to discovery.

PA: How could you create that same kind of environment - or do you think it is even possible - in an institutional context? Starting with Laetitia, you worked at STEIM [Studio for Electro-Instrumental Music] for many years, can you imagine working in institutional context that way,

and if so, what would an institution need to do to create that sense of trust?

LS: I think it would need to have the approach of a residency. It's really important to have people either live together or get to spend some time together, because I think a lot of what we do is informed by everything that is not part of what we are doing: I'm really interested in small gestures. A lot is informed through non-intentional activity. If an institution was to create some kind of a space: not a lab, some kind of a pleasant place - as for us in Normandy - where people can have some time to unfold and maybe think about things without having the urge to come to a result, and accepting that it might go nowhere. So I could imagine that it could happen where people would create some kind of discovery and I think that Steim in a way was a bit like that, except that people except the people had an idea for a project and people would help with that project.

At the end of the day I think it's really important to allow, again, for an environments where the researcher or the composer does not have goals that are already determined because the tools are going to change how one thinks, the friendship is going to change how one thinks, there are so many things that are going to change. So I guess, funding something in a nice place, with good food

- very important for Rebecca, who needs some Camembert to get her going.

RF: I was wondering how long it was going to be before you said something about that.

LS: I could publish a paper on this, 'How to please Rebecca?' So I can see that it would be possible. I think it could be something like two weeks, and it would be nice if it was also repeated, because things change, and especially as we all work in different ways. It took me a while to design something that would make use of her ideas, to use it, to change it. So it's not like you say, I have this thing I've going to plug into this other things and it's going to work. That's not the fun part, the fun part is to have your ideas evolve because of this interaction, right Rebecca?

RF: I agree with everything that Laetitia said so far. I think that ideally having that space that feels like a residency, that is recurring and long-term, without the pressure to immediately produce something, where you have the freedom to explore a lot of ideas and try things. But also, I would add that institutionally I think there are so many barriers to that kind of work happening. At a university, for instance, the time pressure that I'm typically under as an academic. One of the reasons that I love going to Normandy is that it gets me away from the constant emails and people asking things from me every five minutes, and

asking totally different things each time. I think working at a university right now - at least in the UK - you have a lot of different responsibilities and your time is packed into little chunks and it's really hard to intentionally focus on one thing for a substantial period of time. So I think we've been successful in setting up a structure where we can do the

visit issues around what kind of work gets rewarded within institutional systems. I'm lucky to some extent at Goldsmiths because being able to say I'm making software that's being used to really make music, I'm making something and learning over a long period of time what it's good for and why we want to make this kind of thing, and that's an argument that isn't necessarily compelling in the conventional computer science department. Right now I am in a department where there are people who look at that as valuable, but still, it doesn't fit nicely into the rationale or into the metrics that are increasingly becoming part of how we are assessed professionally.

LS: That's interesting, I wonder when there was the Experiment in Art and Technology at Bell Labs, how they set up and how they paired people, I'm not sure how that was done, how much time they have, because that would be interesting as an example of one of those meetings or encounters. Although it's different in the sense that there was a project. In our

collaboration, we didn't do a project: Rebecca has a whole full-fledged system and approach to instrumental machine learning, and the instrument that I worked on is also something that is still in development, if doesn't have an end to it.

So with Experiment in Art and Technology at Bell Labs it was more project-oriented; but still, when you look at some of the footage of the time, it definitely had some of the fun of just trying things out...so isn't really our case...

RF: Because we don't have fun?

LS: No, we do! I meant that it's not as if at some point we say, now we're done.

RF: I hope we're not done.

LS: Definitely, I hope so too. So it's very much like you said Rebecca, you have to come up with results to prove that you're not wasting important research time. I'm not an academic but I know, I have a sense of the pressure, and in my case it's just I'm not going to make any money, so it's going to be something that I do to for my performances. So again, it's a very unique relationship, where we both agree to do things...

RF: ...that are important to us despite not having external incentives.

PA: I don't want to be too goal-oriented in this question, but what were you able to achieve in your collaboration through this particular way of working?

RF: When I started working with Laetitia, the first version of Wekinator already existed and had been used by few other people, and I knew that there was something there, I knew that it was something that could be useful; so I would say the most concrete outcomes of our work have really been a substantial evolution of what the software does and how you interact with it. I made a new version of Wekinator a few years ago now and I remember synthesizing a lot of the conversations that we had had, as Laetitia had been using the original version. I had also been watching her experiments with some prototypes of the new instruments, and I had been talking to some other people using it in different contexts, for instance some people had been using it to teach, and I knew to some extent what I wanted to change about it but not exactly how.

Laetitia was the first person to see some paper mock-ups, you'll remember I showed you and said 'hey, what do you think of this?', and that was a really early point of making a concrete design that started to do things better, and that design has evolved over the last several years: things like, what does the user interface look like, how do you set up a new project, how do you understand what's happening, but also, how do you know whether something is running efficiently. For me, knowing that something is not running officially enough can be very useful in real-time, addressing

the really important technical issues that have come up, it's really been largely through her use of the software and giving feedback to me that I've learned how to how to make it better. So that's one outcome, I think it's really substantial outcome.

Beyond that as well, I have a much better understanding of musically, what these techniques could be used for; creatively, why they might be interesting. I also think, Laetitia, the way that you think about control, and your relationship to the instrument, or your role in the composition and creation process has really changed the way that I think about these things, and now when I give talks to technical audiences about machine learning, that's now one of the things that I talk about quite a lot, is trying to get people to question this assumption, that when we make technology we want to make things that we can control more efficiently. You've spoken really eloquently about that not necessarily being your primary goal and about the rich creative possibilities that are present when you think about other types of interaction. I think that's a very foreign concept for computer scientists and machine learning researchers, but I think it's getting at the heart of what technology could offer us in creative processes that for the most part is being ignored. There's huge set of opportunities there, I think some really beautiful music and art to make. For

me, even the more important outcome is thinking in a different way about the role of technology and thinking more broadly about how we want to relate to it as people.

LS: We think we are going to create things that are going to allow us to control efficiently, when at the end of the day, when you look at what happens, we have been completely transformed by what we use; it's not as if it hasn't changed anything about how we think.

But for some reason, when we are in the process of creating, we don't think about this, we think it is going to allow us to do this and allow us to do that. All of these platforms that we're use are actually changing who we are. But for some reason it's not really acknowledged at the beginning, that actually we are creating tools that are going to change we are. It would be nice if we thought a bit about what we would be like to be, as opposed to just paying the price for it afterwards.

To return to your question, in my case, encountering Rebecca's work completely changed the way that I was thinking about instrument design, based on what she had designed and what she had been working on. It's almost as if I had learned the piano for 20 years and now I'm playing the trumpet. It's even more different than that, it completely changed the performance, it completely changed the instrument, because for me, instrumental

design and composition and performance are integrally tied.

In my case, I think that it was extreme, in the sense that it meant completely rethinking everything I was doing in performance. There is obviously a range of how much one is willing to reinvent oneself through technology, but in this case it was really much more than I had expected: it completely changed how I am thinking and performing. So through this process there was this totally new way of thinking about performance, not from a theatrical point of view, but from a compositional point of view.

PA: A totally new way of thinking of performance: that's pretty impressive.

LS: For most people it may look exactly the same, but for me it's revolutionary. One of the things that that I was interested in, which is rather ironic in machine learning, was the machine not learning: what if it never learns correctly? Most engineers might not want to pursue this, to have the software do something it isn't supposed to do. I think it makes quite a big difference that Rebecca is also someone who is involved in artistic practice herself.

To go back to the institution, I think it's very important to emphasize a central aspect: without wanting to limit to categories of male and female, I think our friendship and our process was very

much influenced by the fact that we are two women. Maybe we need to encourage those relationships more.

I think part of it is just allowing people to just interact and wander around without goals. It is getting to be very difficult to allow for the kind of interaction that is not based on some efficient result. In teaching, we can see the same thing. If we tell students we're going to do something, they say 'what am I going to do this?' I'm not sure we would can embrace the possibility of failure, it's very hard for students as compared to the 70s or 80s. Now they pay \$50,000 a year. They think, well, this class is costing me \$5000, and I have to go to work afterwards, so I'm not going to take a class which doesn't know where it is going.

In terms of a residency, it would need to be curated somehow, to choose people who are engaged in some practice otherwise. You could create a situation where all these people work together for say two weeks. You don't have to ask for results, there will always be results from people who are curious. I think it would create amazing results.

RF: I think another piece of art is also thinking about what form results take. Certainly there are results that come out of the work that we've done: there is the new version of Wekinator and the updates to it, there are the pieces that you've made, but also, we've talked about writing academic papers together and submitting

to computer music or human computer interaction venues. We haven't done that so far and I wouldn't rule that out, but it's also quite interesting that it's not a great fit in terms of conventional academic publications for the kind of conversation that we're having right now. I think again, the really important, exciting stuff for me is how we've come into new understandings of what technology is good for, how to make better tools and the impact that technology has on the music, and the impact that technology has on us, and what we really value about everything that in that space: that's not really an academic paper, but I think it's important. It's important to have spaces where people can have these conversations, and having these conversations in the way were are right now, in a nonacademic style, where we're not referencing everything we are saying and trying to put it in a really heavy theoretical framework, we just speaking from our experiences and articulating things that we have learned for ourselves over time. So in a sense, I am glad we are doing this Array conversation...

LS: We should do an academic paper, Rebecca.

RF: We should.

PA: Well, maybe there needs to be a space for this kind of collaborative work, showing examples of successful collaborations. Maybe it could be

something in between an academic paper, a demo, and a performance.

LS: I think the process is interesting. When I talk to people about how this came about they are surprised really, because it's not so common, especially this bridging of spaces. Most environments are successful if they branch outside of their bubble, but it's difficult because they have self-sustaining systems. When you branch out and go outside, I think it's so profitable.

RF: That is something about our work together: I would go crazy if we didn't have a space to do this kind of work. In some senses, this is some of the most important work to me, but it's not necessarily the kind of work that is expected of me day to day, it's not necessarily the kind of work that lines up with the boxes that one is supposed to tick – but I'm OK with that, as long as we get to do it.

**Laetitia Sonami** is a sound artist and performer, whose sound performances, live-film collaborations and sound installations explore ideas of presence and participation. **Rebecca Fiebrink** is a Senior Lecturer in Computing at Goldsmiths, University of London, developing new technologies to enable new forms of human expression, creativity, and embodied interaction, such as Wekinator, her software for real-time,

her software for real-time, interactive machine learning.

## Artist Statements II

### Back to the bones: bringing a performer's initiative to the design and development of interactive performance systems

by *Mari Kimura*

From the creation of the very first musical instruments and instrumental performances, made by blowing into hollowed bones with holes, the adaptation of found objects has inspired us to create music. Throughout the history of instrument-making, players have driven development, in relation to the needs of societies and environments. Today, however, I find that the models of human-driven invention and development of musical interfaces and instruments that trace their roots to antiquity, have become somewhat reversed in our field, such that the tools themselves often seem to drive computer-music practices.

As a classically-trained violinist from Juilliard, I took quite an unconventional path. For many years, I was the only violinist I knew to perform at the level of a concert violinist as well as compose and do computer programming for my own pieces. I wrote and presented my first interactive composition at the

Computer Music Conference in 1992 in San José, California. Some of those who were there still remember my little Powerbook crashing on-stage about 20 seconds into the piece. I had to stop and reboot my computer in front of the audience (fortunately, a very sympathetic one). In those early days, people openly asked - presumptuously but not entirely implausibly – 'Who is doing Mari's sounds?', assuming I couldn't possibly program a computer on my own.

From this standpoint, I find that technological advances – perhaps driven by economic motives of software/hardware companies – are not necessarily responding to artists' needs in their push for innovation. Thus the curious reversal I mentioned: new interfaces, musical instruments, music apps marketed as 'for musicians and artists' are presented to us before the artistic necessity or desire to make music using them arises, without a clear vision of who these 'musicians and artists' are.

Computer Music, with its ever-developing technology, enables one to modularly add, combine, and create digital elements and devices, providing a plethora of possibilities to creators. Naturally, the creative process is vastly different from composing for a string quartet, for example, where physical limitations are at play. On the other hand, it is very easy to limit interactive computer music to