DOCUMENT

UFD003 ✎ Florian Hecker ✎ Robin Mackay

Sound Out of Line: In Conversation with Florian Hecker

In this discussion from the 2009 Urbanomic event Sound Out of Line, Florian Hecker discusses the evolution of his work, sound synthesis, and the nature of collaboration

robin mackay: In the work that you've done, both in your own name and in collaboration with others—and we'll talk a little about this later, the fact that a lot of your work has been in collaboration—the only constant seems to be change: With every release and every installation you never repeat the same experiment twice, and each work uses different techniques to address a series of related questions about sound. So the simplest way to begin might be to ask, is there any one guiding principle behind what you are pursuing in your sound work?

florian hecker: I can't yet see such a principle and I believe this could be answered differently at different times. However, one answer here would be the notion of the production of apparent change and surprise and what this produces (in us) while experiencing it. For me sitting here now and thinking about this, this notion of surprise or change in a sound piece is something that has been my main focus in all the different pieces over the last year. So, in the perception of a sound work, what does it mean if something changes from one state to something very different, something which on first hearing does not connect straightaway to what you perceived before? I would not want to call this a break or rupture, but rather a situation where one state is being followed by another which is quite different, a sort of a sequence of events and episodes...

rm: The net effect of these sudden changes is often to disorient or surprise the listener: I have the impression that it's not a simple matter to produce such an effect, and that this is the nexus of the conceptual work and the technical demands of composition in your work. To disrupt the expected or orthodox reception of sound or what the listener expects from musical experience, firstly demands that you have an analysis of what those expectations are and where they come from. Much of your current work comes from looking critically at theoretical models of how sounds are received and unified, formed into consciously-understood sonic entities. And you have to evaluate those models in order to subvert or disrupt those mechanisms of unification or normalization.

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fh: Yes, looking into different models of sound perception in various branches of psychoacoustics – sound being perceived as a 'stream', or as an 'event', or as an 'auditory object'; when I started doing all of this, it was a very intuitive and unconscious approach: I simply wanted to get rid of all of these

things that constitute something like a classical tune— melody, pitch/note relations, etc.— and then see what's left if you take this all away.

rm: So you're trying to expose the listener, in the absence of those recognizable criteria— they don't have anything to hold on to. But this raises the problem, a philosophical problem, I think: there can never really be a raw experience of sound (or indeed of vision). Because our minds always impose— as a function of what Kant might have called a 'transcendental principle' that is necessary in order for there to be experience per se— the necessity to unify, to gather together, to reconstruct, in order to make sense of what's being heard. Which in turn recalls Duchamp's principle that 'it is the viewers who make the pictures'. That is, the result is that the audience is forced to play an active, participatory role in creating the piece. This was quite an explicit principle, I believe, behind your collaboration, for Venice 2009, with Cerith Wyn Evans, in that Cerith's film had no explicit connection with your sound piece, and so the audience was forced to make sense of the coupling. So they end up 'making' the piece even if it's involuntarily, by default.

fh: It's called No night No day. Cerith and myself did this in a very lush opera house in Venice three weeks ago. It consisted of a film projected on one screen, and my contribution, a computer-generated sound piece that was distributed on twenty-four speakers in the space. And in the process of working on this, people would often say to us, Oh, you haven't shown each other your work while you've been working on it?

rm: So you worked in isolation?

fh: Yeah, in so far as we didn't show or play to the other what we're doing. But over a period of two years, we had an ongoing discussion: that there's going to be this event sometime in the future, we're going to do this somewhere. And soon it became apparent what we didn't want to do: We didn't want to have human performers in there, and we wanted to do something that dealt with projected media. And I feel that this notion of collaboration changed very much in terms of what can a collaboration be.

But what brought things together was these two elements being in the same space. The audience went into this theater, they were aware that they were going to spend forty minutes in there, during this quite hectic time of the opening of the Venice Biennale. And for me this was one of the important features of this piece: that it was this engagement in this particular space that would bring it together.

In terms of the segregation of the elements, this happened on quite a few levels: There was nothing like a deliberate 'hotspot' in this theatre, from where you could listen in the 'best' way; there was no place where you would see Cerith's film in the best way. Nevertheless, in fact the 'cheap' places at the very end of the theater had the best view on the piece, and the people who paid the most and sat in the first rows just saw this blurred-out digital image. However they got to hear in a different perspective than someone sitting in the opposite direction.

rm: So this was like a spatial expression of the principle that each member of the audience puts it together themselves— you get a different impression depending on where you are.

fh: Yes.

rm: Looking at the CD releases, what is striking is that their totally uncompromising nature. Each one is the result of a process of experimentation, and this process is presented without any concessions to the listener— there is no attempt at pedagogy, no careful gentle leading of the listener into this space. Would it damage the work were you to do so? Is this deliberate?

fh: Yes, I think it would partly compromise the work; but what we're doing here tonight is a kind of 'guided tour', so it's different to how a CD is circulating once it's been released and someone picks it up somewhere.

Also, it changed a little bit from release to release. In a couple of albums, like the record I made with Rephlex in 2006,[1] I wrote liner notes, but it was more to embrace this spirit of electro-acoustic records from the seventies, which always had to have liner notes— adapting to a certain style, and seeing what I could put into this. Or like our collaboration on the

1. Recordings for Rephlex (Rephlex, Cat. 181 CD, 2006).

latest album,[2] taking this in a very strict direction— which went so far that people said 'oh, the music sounds okay, but why the hell are these liner notes there'— or the other way around.

rm: I haven't heard the response that way around yet, I'm looking forward to it!

I was thinking of the idea, for instance, of 'intelligent techno', as proposed originally, I guess, by Warp: 'intelligent listening music' that presents elements that are perhaps a bit avant-garde or exploratory, but within an accessible form that is ultimately still 'musical' in an obvious way; that's something completely different, I think.

fh: Yes, these releases were still working with this musical garbage I wanted to get rid of! Rhythms and melodies and the format of a track, conventional short durations for a track.... They are presenting elements from outside, but within the framework of traditional musical expectations.

rm: Nevertheless, there is also an editing procedure that follows the research phase, where you're compiling and creating a 'piece' out of what must be a huge amount of raw material— like editing rushes down to a tractable length. So there there must be some sort of aesthetic criteria involved in doing that— you're choosing which bits to include and which not. Is that aesthetic criteria common to all the pieces, or is it something that arises from the particular technique or technology you're working with?

fh: It's probably both. There is always this intuitive decision, having, say, an algorithm running over a certain time, and it's half-generative or fully generative, but there is still this need for editing. But since it is done in an intuitive way, I couldn't describe what's involved in it.

rm: And how would that fit with the idea of surprising the listener? Is that a criteria for selection?

fh: Yes

rm: So if we take the example of Sun Pandämonium,[3] this would be the fruit of a period of experimentation of how long?

fh: To a certain extend this started in 1999 when I did a year-long workshop on physical modelling synthesis at ZKM in Germany where I met Alberto de Campo, who worked with Curtis Roads on the original Pulsar Generator software. Together with him I started to look at Iannis Xenakis's stochastic synthesis and also at software works around Trevor Wishart, the English composer, the Composer's Desktop Project and the idea of analysing and editing sounds on the scale of wavesets and putting them together again. So there was a process over several years to get it done. But then I think the actual process of doing the album was very quick; as in the collaboration with Cerith, when you're speaking with someone about two years to do something, then assembling it happens quickly.

rm: You mention Xenakis, and I think we should talk a little about why Xenakis is so important to you and what makes him such a singular figure in modern composition. Xenakis alienated himself from many of his contemporaries; his way of using mathematics was so brutal, and he was using some of the most advanced mathematics circulating at the time— group theory, and so on— but he wasn't interested in using mathematics as a way to reduce music to a minimal high-modernist austerity— instead there's an element in Xenakis of the philosopher of nature, a lot of his work is informed by his philosophical Greek heritage, and he's a lot of the time trying to create what I could call living forms in sound, in the belief that mathematics reveals the deep structure of dynamic phenomena. This is something I really understood when hearing the orchestral works live – it's like this immense, compelling wave that bears you along like a force of nature. And yet paradoxically, there's no 'emotional content', in a way— and people berate him for that and find it very difficult about his work. I mean, there's no identifiable easy emotional content to grab hold of. So it's very abstract but at the same time very passionate, there's an interesting contradiction there in the tools that he used and the way he uses them. Why is Xenakis important for you?

2. Acid in the Style of David Tudor (Editions Mego, eMEGO 094, 2009).

3. Sun Pandämonium (Mego, MEGO 044, 2003).

fh: When I first heard S709, which was one of his very late compositions, featured on the Xenakis Electronic Music CD compilation, it just struck me as something entirely different from anything else. And this made me curious.

rm: And you looked into Xenakis's works, but also his working methods?

> This incredible directness and even simplicity, but resulting in these highly complex waveforms that never repeat themselves. This duality I find fascinating

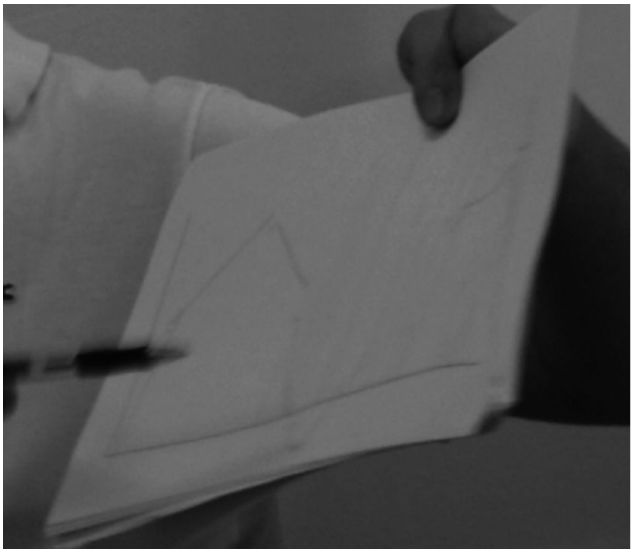
fh: Yeah, it seemed that here was something that in a way is very straightforward, the idea of having a synthesis that's just creating this stream of sound, and that's it; there was not necessarily any layering treatment afterwards in order to arrive at the result. So there was this incredible directness and even simplicity, but resulting in these highly complex waveforms that never repeat themselves. This duality I find fascinating.

rm: One way you could describe what is singular about Xenakis is 'automated timbre': the fact that you're using mathematical synthesis to produce very rich sound. Some of the pieces on Sun Pandämonium use Xenakis's methods, right?

fh: Particularly the second piece is done with an updated model of the Xenakian Dynamic Stochastic Synthesis.

rm: Is it possible to explain something about this technique in layman's terms?

fh: I will only put it in layman's terms and dangerously simplified— on all these things I am collaborating with a dear friend, Alberto de Campo, who is a composer in his own right, who also has this incredible knowledge in software design and the patience of listening to me when I'm trying to explain what sound or process I am longing for. It's not so much of a direct comissioning to produce a software instrument, more a ping pong between what he's into and what I'm after. So, we have this ten year long collaboration on software instruments, and the updated algorithm on Xenakis Dynamic Stochastic Synthesis, stemming from this, is..I'm going to make a drawing and hold it up.



So having this time space here, the algorithm generates different breakpoints in time that are connected— each of these cycles has a different, stochastically drifting variation of these, so you never get the same waveform twice. This creates a sound that Xenakis, to my knowledge, was highly attracted to; this very idea of an inner richness of sounds occurred already much earlier in his electroacoustic pieces, for example in Concret PH, one of the early pieces that features sound granulation and which was created for the Philips Pavilion for the Expo in Brussels in 1958..going back to this longing to avoid repetitions of sound on the micro-scale, on the meso-scale, and on the macro-scale, to paraphrase one of Xenakis's favourite ways of looking at the world.

rm: And on the micro-scale of the timbre of the instrument, he's often interested in the points at which the sound of the instrument ceases to be a pure tone, a tone we'd associate with the instrument, but breaks down, the breaking apart of the sound that would really reveal the inner richness of the instrument, more than if it's played 'properly'.

fh: Like we all heard with Dom's tools, taking something that looks very controlled, but taking this idea of a de-control that reveals the richness of the instrument.

rm: 'Machines work better when they break down'....

In the pieces on Sun Pandämonium, and generally in your work, is there a 'live' element? That is, are they produced simply by setting parameters, seeding the algorithm and letting it go, or is there continual human intervention when you're producing the work?

fh: Yeah there is. Certainly. But this connects with what we said earlier, that you're starting with these partially generative tools, but in the end you're still choosing which part to take.

rm: In Blackest Ever Black, the 2007 album with Russell Haswell,[4] you rediscovered an electronic music system UPIC, which is like a computerised architect's drawing board that Xenakis designed, and which introduces an interactivity into learning about sound.[5] How did that project come about and how did you manage to rescue this machine?

fh: Well, it's a bit hard to speak about these collaborative works on my own, but the UPIC interest started from hearing this aforementioned short piece S709 by Xenakis, and then finding out more in Curtis Road's Computer Music Tutorial[6] about the UPIC and Xenakis's other electronic pieces. And we were in contact with Curtis Roads at the time, who was giving classes at the CCMIX in Paris once a year, and he was kind enough to open the doors for us to go and work with the machine for two weeks.

rm: And was anyone using it at the time?

fh: Participants of the CCMIX course probably were, however it appeared slightly unpopular: when we went in there, Gérard Pape, who was directing the centre at the time, was very surprised that we didn't want to use the Protools system or any of the other more contemporary tools that they had in there, to work with this more sophisticated studio setup. We were in there for two weeks, drawing everything—there are two approaches to the UPIC, one is a sort of 'sonification' of a drawing, to go there with an image in mind, being interested in finding out how that image would sound; or the intuitive approach of trying structures out and seeing how they sound. We did both, we had drawings that were representations of all sorts of things, and then also those that were made in order to shape the kind of sound we were after.

rm: Presumably the intention ultimately is that even if you start out wanting to see what a picture of a kebab sounds like, you get drawn into this process of interaction, what Xenakis called 'polyagogy', a process of learning through the hand, the eye and the ear. Is there a kind of similar ambition in your work, to open up these spaces of sound for people, to de-educate them from the prevailing western model of music? You have certainly extended your work outside of the traditional venues of academic computer music.

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fh: It wasn't so much a deliberate to widen something here— Sound has more than one 'site', logistically as well as ideologically. Some of the works exisit as gigs, publications or installations, that is to say, compositions and, in the majority of cases, are more space- than site-specific. This bifurcation, which leaves art-theoretical and musicological interpretations open, is able to situate and comment historically upon different references and components appearing simultaneously in a work. On the other hand, I consider concepts and definitions, such as sound installation or sound sculpture inappropriate and not particularly precise.

rm: And in the installation work you do, the use of pluriphonic sound has become increasingly important. The work we'll hear tonight is a four-channel piece, but as you mentioned, in No night No day you had twenty-four channels. What does that multi-channel element allow you to do that you couldn't with a more restricted setup?

fh: Multichannel for me here means more than two— even just adding a third element in a piece complicates the hearing process right away. And then

4. Blackest Ever Black (Electroacoustic UPIC Recordings) (Warner Bros. Classical, Cat 256464321-2, 2007).

5. See Haswell & Hecker, 'Blackest Ever Black', in Collapse III.

6. (Cambridge, MA: MIT Press, 1996).

the spatial setting: different spaces have different possibilities for showing works, in terms of looking at audible reflections in spaces, and phantom sound sources.

rm: Do you need the environment and equipment to be really tightly controlled? After all, the technical nature of what you do seems to rely on precision and accuracy of reproduction for its effects? Or do you adapt a piece for whatever space it will be performed in, and that becomes a part of the performance?

fh: Both!

rm: We've talked about the influence of composers such as Xenakis, the history of modern music and electronic composition. But equally important are the sonic explorations coming from dance music. And this seems to be referenced in the title of Acid in the Style of David Tudor. It's this strange encounter between acid house and the avant-garde American composer. That clash seems to be exemplary of what your work involves. How were these different influences exerted on you, and how do they come together in the work?

fh: They were exposed to me at different times—I listened to techno and ambient, and only much later to the works of Tudor or Xenakis. And at a certain point, it just seemed natural to look at these things at the same time, looking at the intensities which they share and as a separated thing.

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rm: And Acid…I read as being one of these strange convergences: that you were using technologies and techniques in part inherited from Tudor, and you get these noises that recall the sound of the 303.

fh: First of all, the title is a title, it's not the programme of what's on the CD. But then, as you say, there is this strange similiarity of works like Pulsers or Neural Synthesis that have this particular timbre that reminded me of loads of acid basslines. But to avoid looking at it in just that one way, I also introduced these other tracks to shift the direction of the thing, bringing in Alfred Bregman's 'Auditory Scene Analysis', so that it wouldn't be too much of a programme album. There is also the title, which, as you bring out in the text, links it to Art and Language's Lenin in the Style of Jackson Pollock.

rm: Another clashing of worlds is the collaboration, the live sets, between you and Aphex Twin—the collaboration, as with Cerith, isn't at all to do with two people getting together and planning what would function smoothly between you, it's more like a sonic battle. How did you two approach that?

fh: It's something like a test; to see what would happen if there were two performances happening at the same time in the same place on top of each other. Richard playing his stuff, me doing what I'm doing. And the reaction after the first performance was people said it wasn't 'together' enough. So here is this questioning of what a collaboration is, and how 'together' something has to be to be perceived as a collaboration, this is something that interests me—to have different events going on at the same time, and one has to tune into whatever you want to tune in to. It's hard to believe that the notion of collaboration is still so much in this nineteenth-century ideal of two artists doing something together.

rm: In a sense you're doing the same thing on a macro-level, with these parallel performances, as you're doing on a micro-level: Challenging the auditor to put it together themselves.

fh: Yes, and it was also a lucky coincidence that these series of performances happened at the same time as the work with Cerith in Venice.

rm: If we take it that one of the guiding questions here is 'what is a sound', what constitutes its unity, you're looking beyond the specific literature on psychoacoustics, you're looking to philosophy to unfold the dimensions of this problem. It's interesting that we've often discussed phenomenology, even though your work, through its technical nature, implicitly subscribes to the idea that mathematics is capable of describing sound, outside of any possible phenomenological experience of it. How do these things fit together?

fh: I'm uneasy with the idea of things having to 'fit together'. When working on Acid in the Style of David Tudor, I was looking into the relatively recent branch of 'ecological psychoacoustics', drawing on James J. Gibson's work on active perception and affordances in psychology, and there I found these three different branches of thinking of a sound: Jens Blauert's 'sound event' which happens, and then we perceive it; Alfred Bregman's idea of sound as a stream, which draws very much on visual gestalt theory, which was very closely connected to phenomenology, the works of Wertheimer and Gestalt psychologists from the 1920's, and which sees sound as a stream that has the features of self-similarity, familiarity, belongingness; and the other model was the idea of 'auditory objects', which fuses a little with ideas of visual objecthood, this triggered the interest in a phenomenological viewpoint and a technical perspective through a set of psychoacoustic ideas.

rm: These are all ways of explaining how we come to regard a set of acoustic disturbances as 'a' sound.

From the perspective of classical psychoacoustics, my works would be labeled right away as noise, not as tone. But when you're listening to it, you're having a very different experience than if you were listening to 'white noise' or 'brown noise' in the technical sense

fh: I found them unsatisfactory to a certain extent: From the perspective of classical psychoacoustics, my works would be labeled right away as noise, not as tone. But when you're listening to it, you're having a very different experience than if you were listening to 'white noise' or 'brown noise' in the technical sense. So it seemed obvious that there is a 'phenomenological gap' that happens there. And at the same time I was reading in Collapse II about Harman's notion of objects, and how they always withdraw from any possibility of our fully grasping them. And the richness of sounds that are just transitory and not fully graspable for us started me off on this.

rm: It's interesting to see how the problems that your practice raises, and these philosophical problems, converge in that way. Maybe we could also briefly discuss the story of your piece Dark Energy, which you sent to me after having read the interview in Collapse 2 with cosmologist Roberto Trotta.

fh: This was rather straightforward. I was working on this piece and was reading your interview with Trotta, and after this it was clear to me that the piece has to be called Dark Energy. Partly because I find it an incredible unimaginable image, and partly due to the highly Xenakian onset of the piece, with streams of Gaussian-shaped grains accumulating into audible objects— and due to titular connections: Stockhausen's Sirius, Xenakis's Andromeda and Suburban Knight's Dark Energy on Underground Resistance.

rm: What about the piece you're going to perform here tonight— Rearranged Playlist as Auditory Stream Segregation— perhaps you could address the two halves of the title in turn.…

fh: Rearranged Playlist takes outtakes of existing works I've been doing over the last three or four years, and these outtakes are interrupted by monotonous tone sequences that draw on Alfred Bregmans's idea of sound streaming, Auditory Scene Analysis or better, Auditory Scene Synthesis, and the segregation and reintegration of such streams.

rm: And what should we expect?

fh: The piece is eighty-five minutes long, there's going to be a short intermission between the two halves.