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Letter from the President

by Tae Hong Park

September 1, 2011

Dear ICMA Members,

It was wonderful seeing many of you at the 2011 ICMC hosted by Huddersfield University. For those members who were not at the conference this year, I am happy to report that the conference chair, Michael Clarke, and his team did a fantastic job in organizing and running the conference, thus providing the delegates with an intense yet relaxing and very enjoyable conference experience. It was indeed a very successful conference, and I am certain that it will be a memorable one for many years to come. Looking towards next year, the 2012 ICMC will be chaired by Miha Ciglar and will be held in Ljubljana, the capital and largest city in Slovenia. It is the first time in the long history of ICMA that the conference's annually changing "home" will be in this region. I hope to see many of our current and new members, as Miha Ciglar is planning numerous exciting events within the basic framework of the structure of ICMC conferences.

We are also happy to announce that the 2013 ICMC will be hosted in Perth, Australia. The conference, which will be co-chaired by Cat Hope and Lindsay Vickery, is yet another first for the ICMC record books, as it will mark the first time that our conference will be held in Australia.

To help our conference organizers, we are currently in the midst of creating a permanent conference submission site for future ICMCs and are planning to have it on-line in time for 2012 and subsequent ICMCs. This service will be provided free to our future ICMC hosts. We are, however, also investigating possibilities of offering it to other organizers as a service to our computer music community. In lieu of the submission site, we are also set on building a computer music archive that will be based on "music" submissions to the ICMC conferences. This will entail storing of audio files, program notes, technical details, various metadata, and other important information fields to preserve, archive, and provide a hub for research, study, and exploration of our music to the general public.

Other ICMA updates for this year include an increase in the number of $100 ICMC student scholarships form 40 to 50; the addition of a new policy whereby senior ICMA members can now receive senior discounts towards ICMC registration

fees; and giving away banquet ticket prizes at the membership meeting for the 2012 ICMC. These are just some of the activities ICMA has been engaged in, and we hope to have more exciting news for you soon.

We are always interested in hearing from potential ICMC conference hosts. If you would like information, have any questions regarding what hosting an ICMC is all about, or are considering organizing an ICMC conference please do not hesitate to contact the VP for Conferences Meg Schedel and me (the most up-to-date email addresses can be found on the ICMA website).

If you have any other questions, suggestions, comments, or concerns regarding the ICMA or the ICMC, please do not hesitate to contact me or the appropriate ICMA directors or officers. We hope to see y'all at the 2012 ICMC in Ljubljana!

Tae Hong Park
Associate Professor
Georgia State University School of Music

Letter from the Editor

It is my pleasure to bring you the 2010-11 issue of *Array*. Some of the content in this issue has already appeared on our blog, which has been up and running since last November at http://arrayblog.wordpress.com. It is our hope that the blog will continue to allow for a more frequent release of content with an opportunity for member feedback. If you have not already done so, please point your RSS readers to the blog and be notified when new articles are posted.

If you would be willing to write something for *Array*, have feedback about this issue, ideas for future issues or blog posts, or have materials you would like reviewed, please send email to array@computermusic.org. Lists of items that are available for review will be posted on the *Array* blog periodically. Those interested in writing a review should also include a mailing address and any particular items or areas of interest, so that we can send you the appropriate materials. CD/DVD and book reviewers will be able to keep review copies free of charge. Please consider contributing; the success of *Array* depends on input from its readers.

This issue will be my last as editor. A new editor will be announced soon. I have enjoyed working on *Array* since 2007, and I

look forward to seeing it evolve over under new leadership in the coming years.

Thank you,
Jennifer Bernard Merkowitz

Letter to the Editor

December 31, 2010
Dear Array editor,

When I opened the PDF of the latest edition of *Array* back in August, I was tickled to find among the letters to the editor a response from Bob Gluck to my review of his CD *Electric Brew*. As a graduate student, I remember one of my musicology professors telling me about the back and forth debates that would sometimes ensue in the pages of academic journals as colleagues responded to each other. To suddenly find myself in the midst of such a debate is a genuine thrill! I mean this with all sincerity, something we have to be increasingly sure to state because of internet communication's tendency to default to sarcasm. Fostering an environment where such debates can happen is a vital function of professional organizations and their publications. I will echo Bob's call for such exchanges to be conducted "in a spirit of collegiality and friendship with the goal of engaging ideas". I hope that our open and honest discussion will be good for the discipline and allow (as Proverbs reminds us) iron to sharpen iron.

I will start by saying that wherever Bob has made factual corrections, I of course defer to his statements. Far be it from me to claim to know Bob's personal history or compositional techniques better than he does himself. I read through the liner notes included with his CD and tried to use the details it provided throughout my review. I also researched his biography using a variety of online sources and did my best to enrich my listening experience with context wherever possible. If I there were any factual errors with regard to his creative process or musical training, I apologize.

Bob's primary critique of my review centers around the thesis that I injected too much of myself into the review. His point was that when "the concerns and judgments of the critic take center stage" the criticism is "[l]ess useful". On this point, I must wholeheartedly disagree with Bob. I feel that a review that simply relays the facts and organizes that information for the reader is more reporting than criticism, and to me it often comes across as flat and bland. It is precisely this type of criticism that I took to be one of the things being brought to light by our current Array editor ("The Future of the Concert Review") and Leigh Landy ("Why Haven't I Written about the Pieces Played at ICMC?"). Computer and electronic music

criticism must (to use Bob's own words) "engage the ideas, sounds and processes that organically emerge from the work of a composer". To me, truly engaging includes an attempt to wrestle with aesthetics, what works and what doesn't.

Injecting oneself into the writing is an accepted form of criticism, most notably by what is known as New Journalism. This form of writing has roots in the 1960s and 1970s, and is associated with such American writers as George Plimpton, Norman Mailer, Robert Christgau and Hunter S. Thompson. I am by no means an expert in New Journalism history or all of its method, but as a reader I am a fan. Readers are invited to compare their experiences with those of the author and determine for themselves if their opinions and response to the work in question might align. By bringing elements of subjectivity to the fore and talking about oneself, the author can be more open about any biases that have informed his opinion instead of pretending to hide behind the veil of objectivity. I believe this is a valid method for addressing the call for enhanced criticism and stand by my use of this tactic in my writing.

Aside from the method of my review, there are three specific points that Bob raises for which I feel compelled to offer a rebuttal. First, he takes issue with my attempts to compare his work to that of Miles Davis and either misrepresents or misunderstands my point. He states, "Nathan's position is that the standard by which my work should be judged is Miles's original recording." I don't think my position was meant to be this extreme. It is better understood as an attempt to wrestle with the questions of intertextuality that Bob raises himself through the motifs he has excised and connections made in his liner notes. I merely followed these leads as a method of engaging with the material and made comparisons where they felt most natural. Imagine if I were to hear only Stravinsky's *Ragtime* and never investigate what Scott Joplin sounds like. What if I hear Elvis Presley's *Hound Dog* and never bother to check out Big Mama Thornton's original version? If I hear a mashup, should I never bother to give the two source recordings a listen? Personally, I find these types of intertextual journeys to be incredibly rich and rewarding experiences and would encourage such engagement from listeners whenever the opportunity arises.

Second, Bob took issue with my dismissive tone regarding his piece *In the Bushes* and I believe that here he may have a valid point. Instead of engaging the work in question, I took the opportunity to make comments on the mini-trend of "Bush pieces" and questioned the long-term viability of such works once the speeches used as source material are a faded

memory. In fact, I really did not address Bob's work at all and hope that readers did not confuse my critique of the trend for a critique of his specific piece. I apologize for letting my injection of subjectivity distract me from addressing the work in question, but given the biases I outlined perhaps it was for the best.

Finally, Bob mentioned the recording techniques used to capture the duets between the human and computer-generated layers on the Disklavier and the fact that I "[criticize] the recording for not separating these two layers". While I do not think it would be necessary to go to the legendary extremes of Glenn Gould, providing a perspective different from that of a distant concertgoer might help the listener appreciate this interplay of layers more. I will admit that I am a sucker for recordings that put me in the perspective of the pianist; I like the low notes on the left and the high notes on the right. Perhaps this is because I am not a pianist and envy the position of sonic power that pianists have at the keyboard. Regardless, I merely hypothesized that such a change in the listening perspective on the recording might convey the technical feat of this Disklavier piece better than the distant stereo pair did. I'll leave the debate as an exercise for listeners.

I'll end by restating the bottom line: I did not like *Electric Brew*. But I believe this is an opinion that I can hold without it impairing my ability to write an informative critique for potential listeners. Rather than mask my subjective opinion by feigning objectivity, I chose to frame my review as an essay that wrestled with the question, "Why did I not like this CD?" I followed all of the leads that Bob's liner notes provided, from Miles Davis to the eShofar to *The Rite of Spring* to George W. Bush. In my opinion, I think the reader comes away with a clear picture of the process I went through trying to contextualize and understand this CD. In the end, I was satisfied with my conclusions and stand by them. Of course, readers are always encouraged to listen for themselves and judge the work based on what they hear. However, I doubt that most of them will be able to give as much time and energy to the experience as I did. To engage is hard work!

--Nathan Wolek

ICMC 2010 Keynote Address: Sex as we don't know it: Computer Music Futures

by Pauline Oliveros
given at Stony Brook University, Stony Brook, NY, USA
June 3, 2010

Prelude: The Powers of Iron Man 2

"For a time, due to an artificial nervous system installed after he suffered extensive damage to his nervous system, Stark had superhumanly acute sensory perceptions as well as extraordinary awareness of the physical processes within his own body.

After being critically injured during a battle with the Extremis-enhanced Mallen, Stark injects his nervous system with a modified techno-organic virus-like body restructuring machines (the Extremis process). By rewriting his own biology, Stark is able to save his life, gain an enhanced healing factor and partially merge with the Iron Man armor, superseding the need for bulky, AI-controlled armors in favor of lighter designs, technopathically controlled by his own brain. His enhanced technopathy extends to every piece of technology, limitless and effortlessly (due to his ability to interface with communication satellites and wireless connections to increase his "range").

Some components of the armor-sheath are now stored in Tony's body, able to be recalled, and extruded from his own skin, at will."[1]

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Do you love the music that you make or that others make?

Or do you love how you make the music that you make or that others make?

Where do we locate this love?

In our own bodies?

Within a group that shares values?

Both?

Some other place?

How attached are you to the tools and instruments of your music making? –

How about your method and structures for making music? –

Your role as a composer, performer, improviser or sound artist?

1. Wikipedia contributors, "Iron Man." *Wikipedia, The Free Encyclopedia*, http://en.wikipedia.org/wiki/Iron_Man.

Composing or improvising for me is about producing new knowledge. I want the music that I make to expand my mind and stimulate the pleasure center in my brain so that I can feel good and transmit good feeling to others through my music. Pleasure in music is very related to sexual pleasure. The associated areas that light up in the brain are found in close proximity to each other.[2] Get the facts.

I continue the practice of Deep Listening because I benefit from it and others tell me that they also benefit, derive pleasure and knowledge from it. My intention is to continue to deepen the practice. Listening takes place not in the ear but in the brain/body after the ears gather and transduce the sound waves, and deliver them to the audio cortex. So listening is already inside of the body and not out in the world even though we perceive sound outside of us.

Deep Listening is a practice that facilitates the process of experiencing heightened awareness of sound, silence and sounding. Such experiences are intended to enhance or expand the listening mind across all abilities including those with special needs.

2. Daniel Levitin, *This is Your Brain on Music: The Science of a Human Obsession* (Dutton/Penguin 2006; Plume/Penguin 2007).

Deep Listening is a form of meditation that is a natural possibility for humans. Anyone can or may already be a deep listener. For most people hearing is occurring all of the time. Listening occurs most of the time, and yet remains mysterious in its process.

So far as I know listening is not yet measurable as a scientific physical process. Listening remains a private matter for each of us.

iPods and earbuds and other external in-ear listening devices are only a crude step along the way towards listening completely inwardly rather than just privately or publicly. In the future the ears may be by-passed altogether for a totally private experience.

Let's take a look at where we are with hearing technology:

Stigma associated with hearing loss has diminished greatly from former times. Still, many people hide their hearing loss or are not aware of it.

There is often impatience with the hard of hearing rather than support to get professional help. Regrettably, many people never address their loss.

Fortunately, from my perspective, hearing

loss does not necessarily interfere with listening.

Numerous returning veterans have suffered hearing loss from explosions, forcing the United States Military to research and produce remedies for these injuries. Consequently, hearing research is finally beginning to catch up with eye research. Until recently much more was known about the visual than the auditory system, since sight continues to be favored over sound in this culture. The highly sophisticated hearing aids resulting from this research have filtered to the general populace.

Some of the improvements include:

- Full spectrum, broad range sound
- A more natural organic listening experience
- Digital signal processing
- Built in automation of settings
- Automated feedback suppression
- Spatialized sound
- Automatic or manual adaptation to all listening environments
- Digital noise reduction
- Wireless technology including communication with other audio devices and listening directly to TV, landline phone, cell phone or MP3 player[3]

As usual this list says nothing about the improvement of my definition of listening – only the means to improve hearing. Still, this is a remarkable list of features for in-ear hearing aids and a pointer to future ear enhancements with incorporation of the latest neuroscience research findings.

This brings us back to contemplating the future.

With this level of technology, simulations could include hearing through the ears of others for diagnostics, curiosity and creativity. Other possibilities include hearing through the ears of other species of animals, birds and insects. I wonder what a grasshopper hears with its ears on its knees? Without ears, bees sense vibrations with a hearing organ. What do bees hear? is a most often asked question! They sense vibrations in the air with a tympanic membrane without ears.

However, it is improvement of our mental

3. Healthy Hearing, http://www.healthyhearing.com

powers and abilities through our own efforts as well as transhuman efforts that will bring us the pleasure and knowledge that we need and seek.

The means to achieve this improvement comes through our music - its conception and implementation of new structures, tools and implementations.

Let's imagine computer music futures:

One's listening has expanded beyond the boundaries of our human sensory systems. We are listening to the unknown with our bodies superseded by machines and machine intelligence – intelligence that can calculate and sense far more than our human selves already. What will happen to us? Senses will be amplified – we will see more, hear more, touch more and process far faster than ever before. This is already true of the Super Soldier in today's military with augmentation of his/her physical strength, super-vision, ultra sensitive sensors and protective responsive fabric. The Iron Man fantasy is becoming reality sooner than we think.

As we develop listening we are involved in transhuman activity – especially if we are enhancing hearing and listening through technology or the way that we organize our listening. The increasing sophistication and purposes of technology are moving us into a posthuman world.

Sex is no longer absolutely necessary for reproduction. In fact one researcher labeled it inefficient. This means that babies can be born to any parent – single, coupled or otherwise. Sex for pleasure is another matter.

Computers are assisting us to go deeper into the mind as knowledge explodes and sharing of knowledge accelerates.

So what happens to us as we continue to merge with our technology? What happens when machine intelligence exceeds human intelligence? Our bodies will become increasingly unnecessary.

Gender will not matter. The voluntary elimination of gender in the human species through the application of advanced biotechnology and assisted reproductive technologies is creating a new social philosophy in keeping with such a transformation.

We have evolved a music that has moved through acoustics to electronics to digital technology in 50 years as evidenced by this ICMC2010. Electronic music before digital technology developed out of post-World-War-II cast-offs such as signal generators, other test equipment and tape machines. Today's Super Soldier cast-offs may yield our next musical materials and instrumentations.

Currently we are still bound to analog technology for output from digital technology and humans to trigger the technology. Loudspeakers will become obsolete. As analog technology fades into the past, our perceptions may simply become internalized as computers evolve towards a new kind of sentience and as we are enhanced and can be connected with instantaneous communication in a collective network.

Sexual pleasure may be felt without traditional stimulation of membranes – this kind of stimulation is rapidly becoming unnecessary and obsolete (who has time for it anyway?) – a simulation in an amplified brain can be triggered anytime desired at any intensity. This is sex as we don't know it.

Perhaps musical pleasure can be experienced this way for music as we don't necessarily know it.

Imagine composing for an audience of posthuman, hybrid beings.

In a network:

Your music might be heard below and beyond the range of hearing with timbres in some new and unknown dimension. Rhythms might be from the dance of molecules or atoms, or of galaxies or black holes. A rather different venue is called for and delivered directly to the brain.

How far can we go until there is a new species that lives beyond human needs? We are being absorbed into this new species.

How long will this take?

Think of moving from CDs to file transfers, from land lines to cell phones, from email to texting. Technology is accelerating evolution. Humans and computers will be merged by the end of the 21st century.

Listen to how fast our music is transforming during this conference. Will music disappear with humans? We may understand this evolution by studying the music of other species now coexisting with us – like birds, chimps and whales or the posthumans that may already be living among us due to advances in medical nanotechnology.

Our next music may come from nanotechnology. In the most recent research at UC Berkeley, Jeffrey Grossman has been using vibrational energy exchange to in effect "listen" to the vibrations of the molecule. "The concept is much like bringing a set of nano tuning forks up to a molecule and

seeing which ones become excited. Those would form a chord of 'notes' that are unique to that particular molecule. Thus, the molecule can be identified."[4]

The sound of a neuron firing has been heard in a laboratory, as you may know. Scientists are listening for microscopic data going beyond listening to breathing and heart rate. Thus we may be able to listen to the microscopic music of our own cellular structures in the future.

After computers pass the Turing test demonstrating a mind indistinguishable from a human's in terms of knowledge, emotion and self-awareness (year 2029 according to Kurzweil[5]) maybe we can have "smart" music that finds its own way to the appropriate audiences wherever they are and to whatever form they may be.

When nanobots have entered our bloodstreams and done hyper-accurate brain scanning, the first AI simulation of the human brain will appear. Subsequent "AIs will inevitably become far smarter and more powerful than unenhanced humans," says Kurzweil. Also, "AIs will exhibit moral thinking and will respect humans as their ancestors."[6]

May AI's be super musicians? And if they are, I wonder how it will be to perform and improvise with them. AIs could perform at any rate of speed and track any number of voices. They could listen to deeper and higher tones and parse any noises. All expressive actions could be more detailed and refined than ever before. Their output could be delivered individually to any mind.

I would like to line up for more enhancements! How about musical nanobots designed to retrofit humans for detailed upgraded musical abilities?

Interface is the central problem in computer music – how to access the powers of the computer for musical performance and creation as well as everyday life purposes. Direct human machine interface is a solution I have been contemplating for a long time as I struggle to deal with the ever-increasing knobs and switches that I need to simultaneously control numerous parameters on the fly during performances.

4. Michael Berger, "Nanotechnology tunes – listening to the music of molecules," http://www.nanowerk.com/spotlight/spotid=6941.php

5. Wikipedia contributors, "Ray Kurzweil." *Wikipedia, The Free Encyclopedia*, http://www.enotes.com/topic/Ray_Kurzweil

6. Ibid.

"With the line blurred between machines with human-level intelligence and humans upgraded with cybernetic implants that enhance human cognitive and physical abilities direct interface between humans and machines will be possible."[7]

My own musical journey has taken me from analog tape delay to digital technology in a search to expand my capabilities as an improviser/composer. In multiplying the number of lines, rhythms and timbres that I could track simultaneously, my performances require continually accessible controls that now can only be managed with algorithms. Currently, a virtual agent that can listen and make intelligent decisions about how to improvise with me and others is underway at Rensselaer Polytechnic Institute, supported by the National Science Foundation.

OK, this is where more futures come to life.

Well, maybe you don't agree with Kurzweil or me and thoughts of such a drastic transformation of humans and machines. However ready or not, agree or not, we already are infected with digital and nanotechnology and are moving within and towards this merger.

I have my first implant - an artificial lens in my left eye that corrects for distance and astigmatism. With my glasses I now have 20/20 vision in my left eye. Spring this year looks greener to me as never before. The green is breathtaking. It took me a while to realize that my transhuman eye is contributing to this beauty. At least it is delivering more accurate signals to my brain for me to enjoy my renewal of color perception. Other friends have cochlear implants, heart and liver transplants etc. and are alive because of their implants.

Artificial organs are now sustaining lives. Prosthetics are restoring mobility for millions of people. Research is advancing for the restoration of damaged hearing via regeneration of hair cells in the cochlea. Birds are already capable of this kind of hair cell regeneration.

One of the top predictions from *Scientific American's* "Top 7 Predictions for the Future of the Brain" is Wi-Fi everything: "Microchips in or on your brain will enhance memory, store data, and connect wirelessly to the internet, eliminating your cell phone and allowing you to control machines or even clones via mental wi-

7. Ray Kurzweil, *The Singularity is Near: When Humans Transcend Biology*. Viking Press, 2005.

8. Amazon.com, "Top 7 Predictions for the Future of the Brain" from Judith Horstman's *The Scientific American Brave New Brain* (Jossey-Bass, 2010), http://www.amazon.com/gp/feature.html?ie=UTF8&docId=1000509251

fi."[8] Neuroscience beyond *Iron Man 2* is here.

We need to be careful of what we build upon. Posthuman citizenry is a distinct possibility with old and new political, social, educational, philosophical, scientific and musical problems to solve. For me the time is right to investigate the possibility of becoming a posthuman citizen. I want to be a transformed musician who listens, creates, collaborates, performs new music, and remains thoughtful and concerned about others no matter who they are or what their origin may be. Technology is taking us on a wild sexy ride into the future. If we are mindful of our purposes, creations, designs, models and simulations we could open up new and thrilling musical territory as we don't know it.

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A Summary and Transcript of the ICMC 2010 UnConference UnSession on Computer Music Performance

by Identified Participants and Authors: Jeremy C. Baguyos (JB), David B. Wetzel (DW), McGregor Boyle (MB), Bonnie Lander (BL), Scott McLaughlin (SM), Scott Hewitt (SH), Krista Martynes (KM), Dale Parson (DP), Andrew Cole (AC)

Introduction and Rationale

The time has come to reflect upon and assess the role and the identity of the computer music performer specialist. In pursuit of creating a forum for those that are interested in the art of computer music performance, An UnConference UnSession on Computer Music Performance was hosted on June 5, 2010 at the International Computer Music Conference in New York to initiate a dialogue regarding the past practices, current state, challenges, and future opportunities for the sub-field of computer music performance. The UnSession on Computer Music Performance was proposed and integrated into the ICMC 2010 Unconference by faculty and alumni of the Peabody Institute of The Johns Hopkins University. To date, the Peabody program in computer music is the only program in the United States (and possibly the world) that grants degrees, both undergraduate and graduate, in the specific area of computer music performance. Reflecting the inherently eclectic make-up of computer music, the unsession attracted a diverse group of performers, composers, researchers, computer scientists, sound engineers, and technicians. This unsession was particularly interesting because a collective of performers drove the content of the discussion within a larger ICMC conference that is normally driven by a collective of researchers and composers.

The Unconference Format

On her web site <unconference> found at http://www.unconference.net, professional unconference facilitator Kaliya Hamlin defines an unconference as "a facilitated participant-driven face-to-face conference around a theme or purpose." The unconference format has several advantages over the traditional

paper formats of poster, presentation, and panel discussions. Its egalitarian, fluid, user-generated approach allows a large swath of participants ranging from established veterans to promising emerging talents to spontaneously and collectively introduce and develop ideas, which is not always possible within a traditional conference. Most importantly, this format allows for more informal, direct, and honest dialogue. The format is flexible, open, and interactive and allows for points of relevant departure as well as tangential discussions. It allows for the crowdsourcing of the collective intellectual capital of the willing attendees and yields ideas that otherwise might be withheld if the focus were only on the prepared paper and structured presentation of a primary investigator. As in the tech sector, which spawned the idea, the unconference and the unsession format can be just as enlightening as the traditional paper/panel/poster formats when applied to academic computer music. Jennifer Howard published the article "The 'Unconference': Technology Loosens Up the Academic Meeting" in the online version of *Chronicle of Higher Education* on May 23, 2010 and can be found at http://chronicle.com/article/The-Unconference-Technol/65651/. The article outlines the unconference format and extols its advantages.

Summary

What follows in the main text of this article is an edited transcript of a recording of the active participants in the discussion of issues in computer music performance. Although the identified participants are named, some of the dialogue will not be attributed to any specific participant because some of the participants could not be identified. However, the majority of the dialogue was culled from the identified participants. The identified participants were the scheduled presenters and moderators of the UnConference UnSession on Computer Music Performance as organized by Freida Abtan, the ICMC 2010 Unconference chair, and her staff. Although they are not identified by name, some of the other attendees did participate actively in the discussion and many more were in attendance listening intently.

Jeremy Baguyos and David Wetzel delivered some introductory remarks at the general introductory presentation session to the large group gathered for the ICMC 2010 Unconference before the sub-group interested in computer music performance was moved to the multimedia lab. Although those introductory remarks are not included in the transcript, they outline the content of the article "An UnConference UnSession On Computer Music Performance"

found on p. 397 of the *International Computer Music Conference 2010 Proceedings*. For purposes of this unsession, it was assumed during the introductory remarks of the introductory session that computer music performance is a separate and distinct sub-discipline within the broader academic area of computer music, which normally places focus on composition and research. Furthermore, it was assumed that the definition of a computer music performer was inclusive and included performers of all instruments including alternative, non-traditional controllers.

While participants were taking their seats, the unsession began with a conversation between members of the Huddersfield University Experimental Laptop Orchestra (HELO) and past and current members of Peabody Computer Music Ensembles about HELO's innovative, efficient, and inclusive approaches to the realization of works for laptop ensemble. They use generalized, high-level descriptive instructions to coordinate composition and performance. This segued into a longer discussion about sustainability of repertoire, since the use of generalized, high-level descriptive instructions that are independent of any specific implementation or platform is a tool in the preservation of interactive computer music works involving live performers. Many successful battle-tested approaches to sustainability were recounted in addition to cross-disciplinary ideas from the area of software engineering. In addition, theoretical and speculative approaches were introduced, examined, and related to current practices in sustainability. Also, sustainability itself was questioned to see if it was worth pursuing in the first place. In pursuit of sustainability and the more general concerns of concert production and realization of electronics, the roles of the performer and composer were compared and there was a general consensus that the role of a technical mediator between composer and performer needs to be created, encouraged, and valued in order to support the creative process through the stages of conceptualization, composition, technical preparation, rehearsal, performance, and preservation. Objectives were introduced to help achieve this aim, along with strategies for facilitating further communication between composers and performers. Two of these objectives were a) better documentation of the technology used in new works by composers and b) a stronger commitment by performers to understand the technology required for a given work. Also related to sustainability, notational systems for classical instruments as well as new notational systems for computer music instruments were discussed. At the end of the session, members of HELO demonstrated their

notation approaches. Throughout the discussion, many useful analogies were offered by several participants in order to clarify many assumptions about computer music. For example, many were in agreement that the person who creates a computer music performance system (hardware and/or software) is the 21st-century equivalent of a 19th-century instrument designer.

Transcript

SH: While I was in the other room, I was thinking that your technical topic of electronic music/electroacoustic music and instrumental computer music performance is quite interesting and very relevant to the work that I'm doing. We take laptops on stage in a very "everybody has to take responsibility for themselves" approach.

MB: So when you say everybody is responsible for himself or herself that means they're responsible for the software? They're responsible for the programming?

SH: Yes. We provide nothing at all other than borrowed guitar amps from the popular music course. That's all the assistance that we offer. Everything else is their responsibility.

MB: Is there a composer? Is there a score? How does that work? Is it all improvisation?

SH: We do have compositions. We discourage composers from writing a piece of software to give out to ensemble members because we don't have any rules about who can participate in the ensemble. Composers would find themselves in a difficult situation if faced with eight different computing platforms. They would have to write for all the different platforms, which include Macs, PC, Linux and ten years of computing history in front of that, as well.

MB: So how do the composers work with that?

SH: We have text scores and graphical scores. Many composers use a very high-level language. For example, the score could read, "I want a filter sweep occurring at x point in time." According to the instructions, people create a filter sweep from given ranges at the designated point in time. Rather than telling ensemble members "Here's a Max patch; it does a filter sweep," ensemble members have to implement the filter sweep themselves on their platform as per the composer's high-level instructions and execute the filter sweep at the designated point in time.

MB: That's interesting. We've actually been thinking about that approach for years. David, who does a lot of his own programming, has been successful at reviving some pieces that have been dead for years because they were written with a very specific technology that no longer exists. But with a more generalized approach like what you are talking about, you don't run into this problem of trying to create a piece that not only travels in space, but can also travel in time. It can last.

JB: Now that more people are here, can you review what you have said so far, and tell us more about how you run your laptop orchestra and how the creative ideas are implemented?

DW: Yes, I'd love to know. I've got a lot of students who want to start one.

SH: We allow a very broad spread of equipment, so you can bring any laptop you want. This means if a composer says "I'm going to write a piece of software for the laptop orchestra to run," I reply, "Well that's great. But we run Windows, Linux, and Mac, and we have laptops that are ten years old, so you'll need to write that for Windows95 as well, please." Usually they can't, so this is where they have to move into our territory. This is where we get instructions like, "I want a filter sweep to occur two minutes in," or "I want a comb filter at this point." It's that kind of higher-level descriptive language that we want rather than a composer saying, "Here's a program, run the program."

DW: That's where your work merges with what I'm doing. When you have to adapt something that was written ten, fifteen, twenty, or thirty years ago to current technology, higher-level descriptive languages are the only things that make sense. When I first became really serious about doing this kind of work, it turned into my dissertation. I analyzed four works for clarinet and interactive electronics. I really just looked at the electronic systems. What I decided in that whole process was that what was more important than simply porting the old system into a new system was actually doing the full analysis and really understanding what the original system was about, what it was supposed to do, identifying its specific functions, and identifying the musical aims of using those tools. For instance, one of the pieces I analyzed was a piece by Jonathan Kramer. Written in 1974, it's a piece for clarinet, tape, and tape delay system. Its live processing outputs a long delay. If you're not familiar with the old-fashioned tape delay methods, you start with one open-reel tape deck recording. Then the tape travels across the physical performance space to another tape deck

that plays it back. The amount of space between the two machines determines delay time. He wanted a long delay. It turns out he wanted a very precise long delay. With a time signature of 2/4 with a half note at 100, he wanted thirty-four measures of delay. The first note you play has to come back exactly thirty-four measures later and synchronize with your next eighth note. It had to be absolutely precise. The problem with tape delay is that you can't be that precise. The machines mis-align themselves as soon as you start them, and controlling the gain is ridiculously difficult.

MB: However, you did a performance of the Kramer piece at Peabody.

DW: I did perform it with "period" instruments several times. The first time I did that piece I was an undergraduate; I did an honors recital in electronic music. That piece is really what got me interested in performing with live electronics. I did perform it a couple of times in Baltimore at Peabody. When I was working on a DMA in clarinet performance in Arizona, I had a teacher and adviser who allowed me to write a paper on clarinet and interactive electronic music. I went back to the Kramer piece one more time, only this time after twelve years, it was now a 30-year-old piece. This time I actually contacted the composer, and we had a lot of conversations. One thing I wanted to know about was the pre-recorded tape. How do you reconstruct that? It consisted of a lot of loops and sounds from the clarinet score. It was a bunch of clarinet sounds looped and processed, but it was done in 1974 and it's the clarinet playing of Phillip Rehfeldt. Even though I'm a big admirer, it's still his playing and not mine. Furthermore, it's an old analog tape, and it sounds very different from my digital delay system. So I wanted to know how to reconstruct the pre-recorded tape part, as well. The composer was very gracious and imparted all kinds of secrets about the piece. He was very supportive about the idea of a digital delay instead of a tape delay. Because, really, what he wanted was precision in the delay. He did not want the sound of analog decay, necessarily. So the Kramer work was a case where the technology at the time of composition was not really adequate for the musical goals. It turns out that current technology is much more appropriate for achieving his vision. I wrote the chapter on his piece, and I sent it to him. He gave me comments, he approved it, and it was all done. Six days later he died. This was one of those cases where, if the composer has not documented everything, and you don't know what it is that is supposed to go on in the composition, it's going to be very difficult to reconstruct it later. My message to composers is that you have to make it very, very clear what the technology is supposed to be doing, what

you are after musically, and what those high-level intentions are. What are the signal processing routines? I don't want just the code; I want to know why. I think that's much more important. I looked at several other pieces of varying levels of complexity. Thea Musgrave's *Narcissus* was another composition at the core of this research. It's a piece that if you go to a flute convention, somebody's going to be trying to play it. It's originally for flute. There's a clarinet version; I did an analysis of that. I had to get a hold of the composer's original machine because there were some knob positions in the score that were undocumented, and I wanted to know precisely what they were and how it worked. So I tracked down the original machine, did an analysis of it, and came up with my own algorithms and published them. Now when a flautist or clarinetist wants to play that piece, they google it and find my stuff. I ended up, over the last few years, consulting with dozens of performers around the world who are trying to play Narcissus. The technology is not a difficult hurdle to get over. It's just that they are primarily performers with limited training in electronics, and they want something quick and easy. I also looked at Cort Lippe's ISPW pieces, crawled through all of his ISPW patches, took them apart, and documented every signal processing routine, every variable, and every connection between devices. I also looked at a piece by Bruce Pennycook, which is also fairly complex.

JB: You guys are talking about sustainability. It seems performers in general are interested in keeping their repertoire sustainable. Do you think that's the key to sustainability? Keep everything very high-level and above any kind of notation?

DW: I think notation is very helpful. You need block diagrams sometimes. Just plain old text is good. The English language is flexible, and it's good for describing these things. Sometimes you need pseudo-code. Sometimes you need a filter equation. It depends on how exact things need to be. And that's really very dependent on the piece and the composer. Again, what were composers after musically?

SH: I think that musical notation is incredibly robust and efficient in that it helps in playing material from hundreds of years ago. It works perfectly fine. In the computer music sphere, I think we have yet to really establish a notational repertoire that is that robust. Even with something that is heavily scored, you still have to sometimes go back and ask questions because composers, for example, will make references to dial positions on machines that don't exist anymore.

DW: The last whole week, I've been a featured performer here playing five pieces. For every single one of them, there have been a lot of questions like, "What exactly did you mean?"

JB: At times, I feel that some composers want performers to answer that question themselves—Greg, were you going to add something?

MB: David was talking about *Narcissus*, and it just so happened that I was involved with the premiere of that piece. It was written for a very specific delay unit, a unit they called a Vesta Koza unit.

DW: Vesta Koza DIG-411.

MB: We looked everywhere to find this unit. As far as we know, Thea Musgrave owns the only one that was ever made.

DW: Actually, someone e-mailed me after they saw my research, and told me they bought one for $50.

MB: So there were two. Back when these things were still new, back in the late 1980s, we couldn't find one anywhere. We were calling every music store in the country, and nobody had one. Ms. Musgrave was kind enough to ship her Vesta Koza to us, and we did the premiere with her machine. For a while, that machine traveled around the country with anyone that wanted to perform that piece. If they wanted to perform the piece, they had to get a hold of Thea's machine. It turned out what she was asking for was really very simple. It's a modulator delay, but she didn't know how to specify it in any way other than with a knob position.

DW: The score reads "Turn knob to '1'" and it reads "modulation speed remains at zero throughout." That's what is says in the score. So if your mod speed is zero, that's an LFO. It doesn't make any sense. But I got the machine in the mail, and I looked at the front panel. And it said mod speed .1 Hz to 10 Hz. So the first problem is solved just by looking at the front panel. So, again, careful documentation, please.

Unidentified participant #1: May I ask to point something out? And this may be, but I hope it's not, offensive. There is an assumption here that music is written to be repeated and saved. I'm a big proponent of disposable music.

DW: I have nothing against that, but there is so much music that is meant to be preserved and repeated.

Unidentified participant #1: Maybe the idea that something needs to be kept and preserved and repeated will just fade and disappear.

DW: Except that as a performer…

Unidentified participant #1: Yes, as a composer, there is a difference.

DW: As a performer you prepare for months, ideally. Sometimes you only have a week. But you put so much of yourself in learning how to play it, and then to just let it disappear is disappointing. Other performers can chime in on this. It's disappointing if I've put a lot of work into it and that's the only chance I get. That's kind of how I feel about the piece I played earlier today. I like the piece. I put a lot of work into it. I'd like to do it again. I think I can get more out of it the next time. I sort of got through this first performance, but I think I don't know it well enough, yet, and there is more I can pull out of it with subsequent performances. I think with performers, there is a meditative thing that goes on when you play a piece again and again; you start to understand the work on a deeper level. I think that's why we still play Beethoven.

Unidentified participant #1: To the point where the Laptop idea was introduced, where people are arriving in a room with a mobile phone and they are connected all of a sudden and making music together, do you think there will still be a desire to preserve it as a museum piece, because that's how I'm seeing the whole classical tradition. It's kind of a museum piece.

MB: It is.

Unidentified participant #1: We seem to be so attached to the classical tradition, we don't want to let go of it.

DW: I don't look at the classical tradition that way, but I can see how it can be seen that way. There are so many musicians playing this music over and over. I teach an online Music Appreciation class, and I try to introduce as much contemporary music as possible and teach music as a living art. I think the reason we play old music is because people want to, not because someone told us we had to.

SM: I don't think there is any danger of that type of music going away.

DW: I think it coexists beautifully. I don't see why a classical tradition or even an electronically enhanced classical tradition can't coexist with spontaneous, ephemeral musical happening that can also be so much fun and rewarding.

SM: Notated music is a blip in human history. The point is notated music is just one more way humans interact with music, and it's one more way of making music. It's been the best way so far to make music persist through time. Every tribal society has its own way of making music persist through time. We're just as much a tribal society as anything

else. Computer musicians are a tribe. Live electronic musicians are a subset tribe; computer musicians are another subset tribe. We all have our own ways of making it disseminate, but in computer music, as Scott was saying earlier, we don't really have a fixed way to do it yet. We're still feeling our way.

MB: Computer music is not too far away from where Indian classical music is right now in that it's an oral tradition, and it's a very carefully preserved oral tradition. There are very strict sets of rules that need to be followed. There's no way to write it down. And right now, while the code that we all use is so constantly changing, I don't see any way for that to happen unless we develop something that's analogous to notation or analogous to a more rigorous oral tradition.

SM: The closest thing we have is pseudo-code.

DW: We have pseudo-code, and we have signal processing routines. A millisecond is a millisecond. I'm quoting Gerry Errante.

SM: And an on-off gate is an on-off gate.

JB: Just jump in.

DP: I'd like to throw in a little computer science and software engineering perspective as opposed to a musician perspective, because I'm a poser on that front. It seems to me part of the problem being discussed is what a software engineer would call over-coupling of composition and instrument design. One of the problems you're talking about is this: some of the code (if that's the form that it takes) is composition and some of the code (if that's the form that it takes) is instrument design (and it certainly does in computer music and not all electronic music). If you overcouple those two, then one of the problems you create is that if you have an absolutely unique instrument and the composition can't be repeated unless the instrument is reconfigured again, then, basically, it's not going to be performed again. Whereas if you can decouple the design of those two things to some degree, to come up with a class of extensible instruments, and then a class of compositions that utilize those instruments, it's possible to duplicate the instrument and play the composition again.

DW: The system I have been working on does that. All these pieces that I've analyzed, I've broken them down into little modules that each do one thing. I'm doing all of this in MAX/MSP, but there's no reason it has to be in MAX/MSP. For instance, with Cort Lippe's ISPW pieces, there's a spatialization module, there's a harmonizer, there's a reverb unit, there's a flanger, and there's a granular sampler.

I turned each of those into separate modules. The system that I came up with loads each of those as abstractions on-the-fly, and I have a script. So it's a simple text file. It's just an event list. But it will load all the modules that you need and connect them any way that you want. And then it will play a piece. There are a bunch of standardized instruments, and the piece exists in that little text file. It's a command-line kind of thing.

MB: That's a great idea. So if a composer would learn your system, he could write a piece for it.

DW: What's fun about it is that in a recent performance, I used Cort Lippe's stuff in another piece. So it's very adaptable. You can take someone else's very specialized system and then start repurposing it. It's event-driven, so you would think it would be tied to a score with rehearsal numbers and things happen here and here and here, but I built it in such a way so that you could do a lot of branching, too, and so you could have an event script that loads another event. It has a command line so you can type things in on-the-fly and operate it that way. It has a module for MIDI input. It could have a module for any type of input you want. What I really want is camera input, so I can get rid of my MIDI pedals. I hate MIDI volume pedals. What I really want is something camera-based so I can put my foot through a field and it turns the volume up or down.

SM: Can you strap an iPhone to your foot?

DW: I've thought about it.

SH: To play a little against what you're saying, is there not a danger that you're swapping obsolescence for future obsolescence? There's a whole body of works that are hard to play now. Composers worked with their systems. And out of ten things, one of them is good. That's the first approach, isn't it? I'm going to develop my toolkit, and I'm going to keep my toolkit up-to-date so people can play it. Myself as a programmer, I've written maybe six environments, with the idea that I'm going to write compositions for these environments. As times have gone by, four of them no longer work, four of them probably could be made to work eventually if I bothered. But if nobody asks to play those pieces, I'm never going to bother to do it. The interesting thing to me, though, is this idea of a universal text score driving some kind of time-based events. Because at least that abstracts it so I can interface with the text score in the future, perhaps.

DW: The way it works, in the event line where you create a module where

it just loads an abstraction, you know, I have a main module, so it's just an event number, it will say MAIN, new mod, the file name, then you give it a handle, just give it a name. Later on in the script, so you call it "delay1" for instance. You load your delay module called "delay1" somewhere else in the event script, event number, delay1, time=1000. It's a set of very standard parameters and values. That's how it runs. So then you have to maintain a module that does all of that, has an actual delay in it, and can interpret those keywords. The script itself, the part that's actually the composition, is very separate from that and very accessible. So when I'm rehearsing one of these pieces and you want to change something, you open up the text file and change a value in the text file and you never have to re-patch something in Max/MSP. So when you're on stage and you want to adjust something, it's very simple to do. That's what I was after. I want to be able to rehearse, rehearse, and rehearse. I have my own system. I can travel with it, set it up somewhere in about twenty minutes, and play a concert with four or five works with different technical requirements with the same system.

SM: This seems like an interesting paradigm for performers who perform electronic music in general. Obviously it's a lot of work to set up. Is it something you can pass on and teach to other people, or do you think everyone has to develop their own way of working with the technology and the problems of obsolescence and non-portability?

DW: As we've been discussing, it changes so fast.

MB: That's why we need something that steps outside of the technology, as a representation of it that isn't necessarily dependent on any technology.

SM: I think there's also a problem because of a slight difference between composers and performers, and I could be wrong about this, so shoot me down if this is the case. For the performer, repertoire is important and you need persistence when you spend six months preparing a piece. Whereas, personally speaking as a composer, I write a piece; it's done. Next piece. Next piece. And I think this is why so many tech pieces lie in obsolescence because composers don't go back and make that piece work in new systems. Composers would rather write a new piece. This is an important difference in viewpoints between composers and performers in pieces like this.

BL: You get emotionally attached to the pieces that you play.

SM: Right. Possibly more attached than the composers.

BL: It sort of goes back to the comment about museum pieces. I play Bach. I sing Mozart.

SM: You're not in a museum.

BL: But you do it because you have a genuine passion for it. It's never dead to you. This is why you become a musician in the first place. And your audience has to be engaged. There's a translation of what other people write that you give to other people. That's why you become a performer. I've definitely done pieces before (and my problem is I'm definitely not a programmer) and if there is something wrong with a patch, I can marginally approach it on basic levels but otherwise if it doesn't come to me as a package, I need someone there.

DP: So is it the case that there are no instrument designers in the classical sense? I mean the composers are not the violin designers.

DW: There are, but they are not connected well with the performing community. Or they are working more with the composer.

MB: Or they are the composer.

DP: What I was saying was that classically, the composer was not the one who designed the violin, for example. And neither was the performer. So is the instrument designer missing?

MB: I think you're right. And I think that's where David is trying to plug that gap and find a way to do that.

DW: There have been great players through history who were instrument designers and contributed to the design of their instrument. Sometimes there are people who just focus in on the instrument design itself, but they work typically with performers. And then sometimes a composer will catch on to what they're doing. I have my favorite historical analogies. Mozart wrote his clarinet concerto for a kind of weird hybrid instrument that his drinking buddy came up with. It was a cross between a basset horn and a clarinet.

BL: You made a point about composers needing to document why they want a certain effect; I think it's a good idea. The thing about notated music is that it's also imperfect. It can be interpreted in so many different ways. Even folk musicians and jazz musicians have to interpret written rhythms according to varying performance traditions. And that seems to be getting more and more convoluted.

MB: And that's always been a problem. You can go all the way back to the French

Baroque.

BL: But I think we have an advantage because now we have recordings.

DW: But that's not always the best…

BL: Yes. If used incorrectly, recordings have their limitations.

DW: I spent the last two weeks intensively listening to this recording of this piece I performed. I finally get together with the composer two days before the performance; he says that on the recording it didn't go right in the performance. [This comment evokes big chuckles and nodding agreement out of the audience.]

DP: This brings me to my last question. Someone had mentioned Indian classical music, which involves a substantial amount of improvisation. I'm wondering if this technology pushes improvisation harder than classical instrument making or composition technology ever did. So that a piece can be composed for a range of instruments and part of the performance is the improvisation over the range of instrument space. An example that comes to mind comes from reading tales of Charlie Parker pawning his saxophone for heroin money and then proceeding to play an amazing performance on some squeaky plastic saxophone. So I don't know if this technology pushes more into the direction of doing improvisation as part of the performance.

SM: You jumped right into the question I was going to bring up. The Mozart *Clarinet Concerto* for example, you can port the Mozart *Clarinet Concerto* from Basset Horn to clarinet because it's note and rhythm based. In a lot of electronic music, composers are tied to the specific sounds and timbres that they are using. Even the wrong loudspeakers can make some composers reject a performance opportunity. Being able to port stuff in that way (timbre based compositions) becomes very problematic. Whereas note and rhythm music (not that I'm trying to reduce Mozart to only that) is more portable. Another example is the Schubert *"Arpeggione" Sonata*. There are no arpeggiones today, but it's quite happily played on cellos and viols and things like that, and it still sounds great.

BL: Maybe it's a question of asking what it is of your piece do you want to preserve. What do you want to remain consistent, and what is it that you don't mind changing over the years?

SM: A living will for your pieces!

BL: There are pieces that don't have any dynamics on the score or the publisher

adds dynamics as a suggestion.

Unidentified participant #2: Another thing is the composer should include a sample of the result of the processing with the sheet music. Then it's quite obvious what kind of reverb, for example, is intended.

DW: Yes. I would say as many kinds of documentation that you can throw at it, even simultaneous documentation of the same thing. For example, a composer could document "Here is a description of it. Here are my thoughts on it. Here's a block diagram. And here's a recording." All of them. Then you can triangulate the problem.

SM: It becomes a framework for future proofing of the piece.

BL: And then you don't have the performer fixating on something that isn't important to the composer.

DW: Fixating is something we do a lot.

BL: We see one staccato and we think the composer really wants a specific sound.

DW: Then we end up missing what's really important.

BL: For example, just yesterday, Andrew said "I was told I couldn't have naked notes and that I have to put dynamics on everything. " He was joking around about it and said you can change that. Even though I spent all this time trying to figure out how to do that. But really it was the interaction with the electronics that was more important.

SM: Can I ask, though, as performers, isn't there an issue that too much ownership of the work is going towards the composer at that point? If I was to write something for trumpet and demand that it was only played on one make of trumpet ideally out of a factory batch of 1000 manufactured between two dates, in my opinion, that would be fairly ridiculous.

DW: I was thinking the same thing, like "This is a piece for a Steinway C."

SM: If I write stuff that I want people to play, then I make it easy to play. It seems to me that the dialogue we are having here is driving to a point where everything is dictated absolutely and it's starting to feel like the performer would become redundant. If I'm going to record an example of the processing, then why don't I just keep pushing performers until they make a recording that I think is the best and then I die and then that's the best recording that exists ever.

DW: Then maybe you will have a

performance tradition that would sustain it. Beethoven's dead. He's not here to do that (push us to make perfect recordings). So somebody else has ownership and it's not just the performers. It's the listeners, the musicologists, teachers; everybody seems to own a piece of Beethoven.

BL: I have two thoughts on that. First, even when you get two performers looking at, let's say, Ligeti scores, it's so specific and every note has an affectation—every note has the most specific rhythm that sometimes doesn't make sense. But if you get two different performers, even if you teach them the same way, the performances are going to be completely different. Secondly, for me, as a performer, if I see a score that is heavily, heavily notated, and very specific, it becomes clear whether or not the composer has a clear intention of why they are doing it. And if they don't have a clear intention of why they are doing it, then that's not going to uphold in performance. But if it's for a real valid interesting musical reason (and I want to avoid discussions of quality of music; that's just a can of worms), then upholding that tradition becomes a satisfying thing.

DW: My whole focus on trying to find these pieces that are worth sustaining—it really comes down to the opinions of the performers. We were talking about Thea Musgrave's *Narcissus*. I gravitated toward that one not just because I like the piece, but because so many other people want to do it. And it just seemed like a problem that needed to be solved because there were a lot of performers out there waiting to do this. They had heard the piece, and they really wanted to do it themselves. There's something about getting inside a piece that is very different from just listening to it. Getting into it, and performing it, and interpreting it. You take it into yourself and then send it back out. It transforms you and it transforms the piece. So when there is some dumb obstacle like we don't know what the modulation setting is, then—sometimes it's that easy. Sometimes it's a simple thing to sort out. Others are far more complicated.

MB: An example of that would be Morton Subotnick's Ghost pieces.

DW: Those scared me away. I was going to do *Passages of the Beast*. I heard the piece and I thought, "Wow, that was really cool." So I looked at the score, and I called the publisher. And I asked about the Ghost Box, and they said, "Well, we could rent that to you, but it's had mice in it. The mice chewed out the wiring, and now it doesn't work."

MB: Mort is now really interested in this. You should get in touch with him. I think

he would be happy to work with you.

JB: According to his web site, he is already in the process of transferring the electronics of some of the ghost pieces into MAX/MSP.

DW: There are these pieces that capture the imagination of players, but the moment they try to access it, they get scared away by these technical problems. And if you are not a really tenacious computer music oriented performer who has programming skills—how many of us are there?

SM: It's a family that's slowly increasing. Give it a couple more generations.

DW: I think there's a real need for some training. For performers who are interested in this, they at least need some kind of workshops or tutorials that are really aimed at performers who want to do a broader range of works—and not just composers who want to do their own work.

BL: If you are writing for someone who isn't technically proficient, if you can make it simpler, then make it simpler. For example, if you're just making what amounts to a tape part realized by a live processor with no necessary processing then just make it a tape part. It's so hard, however, to say that to a composer.

JB: Yes, for some computer music composers, it would be very awkward to suggest to them that the music that they created with their fancy DSP algorithms could be realized just as effectively by capturing their ideas in a DAW and saving it to a fixed media format that could be simply played back in iTunes.

DW: They have very fond ideas about interaction. This conference has been kind of weird for me. I've spent so much time trying to take control of the electronics and perform on my own stuff. Then I come here as a performer for the conference, and I'm playing all these pieces where basically I'm a puppet on stage. The composer is out there in the hall and I can't see them because of the lights and they're doing something with the electronics, I guess??

SM: Which is the tradition. You are kind of privileged to have built yourself a system that allows you not to have to do it that way.

MB: I think one thing we are interested in is changing that paradigm and getting the performers more engaged and know more of what's going on.

KM: I know I had a few pieces that I would see little things in the score—I would play, then I wait and hear what

happens, and I think, "Ok, I guess I'll keep going now." But when I play with a cellist, I know that when they do this [motion of a bow], I know that sound is going to come out. I know exactly what's going to happen. I know that it's going to be a low note. It's a very simple thing. But with computers and multimedia, I don't know what's going to happen. I just did a piece. The score had a bunch of fermatas, and underneath each fermata there was a word. Underneath one of the fermatas was the letter "D." And I played, and I'm waiting, waiting, and waiting. Then I'm asked, "What are you waiting for?" I respond, "I'm waiting for the delay. I need to hear the delay. Is 'D' a delay? I hope it's a delay." I don't know what the effects are. The first thing is for performers to aurally understand because our ears—as much as composers write down, and give us fifteen pages of books, and diagrams we can put up all over our house—I trust my ears more than my eyes.

DW: I think when you are on stage, that's what you have to do.

SM: And it is what your training has brought you up to do.

BL: Would you agree, though, if you knew why they wanted a specific sound, you know what things to let go in a performance?

KM: And for something as simple as a pedal when you're instructed to put a pedal down, is the pedal stopping something or starting something?

DW: When you're playing piano music, when you put a pedal down, you know what the pedal is going to do. When I was trying to figure out Cort Lippe's ISPW patches, I opened up this thing that's called a sampler. I didn't know what was going on, and there was this little subpatch called Trevor, named after Trevor Wishart as it turns out. And it's doing this strange logic where it's playing these tiny little snippets of sound. So I go look that up and I go, "Oh, that's granulation." I kind of learned all these things that composers have been trained to use. I really didn't figure this stuff out until I was analyzing a real piece of music that I wanted to play and understand. I played it actually, and I did the puppet version where I was there on stage and Cort was out in the audience with his NeXTcube and his ISPW card. We flew him in from Buffalo, I played the piece, he left, and that was it. Then six years later, I asked Cort if he was still interested in that piece. Can you send me that port so I can see what's going on? I still have not gotten around to performing it again because I'm still analyzing it and trying to resynthesize it and put it back together into a real viable instrument. I learned a lot of tricks just by looking at a piece. But then, I

looked at somebody else's piece, and then I realize, that's just the same thing I saw in Cort's piece. It's a form of musicology. One of my advisers begged me not to use the term "technomusicology."

SM: It's a technique thing. You learn a piece of Mozart, and you learn a particular fingering and you play another Mozart piece, and you go, oh that's the same fingering.

DW: And then you play something by Haydn and you go, oh, that's where Mozart gets it.

SM: But it seems so many times, that performers are like when in film they use blue screen in the background. And there are actors that have to act like Bugs Bunny who isn't really there. There's nobody to feed back against.

Would it be worth asking of the composers and computer music writers, what are your experiences in the other direction in writing for performers? At the moment, the onus is on the composers to make more sense to the performers. But is there anything the other direction? I'm aware that the answer here might be a quiet room, but I thought I'd put it out there.

JB: Why don't you start, Greg? What do composers expect from performers to help make the repertoire sustainable?

MB: So much of the time, all the composer expects is that they show up. And that they've hopefully practiced the piece a little bit. A lot of times our expectations are very low. The Holy Grail for a composer is after you ask a performer to play your piece, they want to play it again. And in extreme rare cases you get a situation where you get someone like David who wants to play it as badly as David wanted to play the Kramer pieces and who wants to go to so much more trouble. We need more of that. Not only is Beethoven dead, Kramer is dead. If David hadn't done that work, we wouldn't have that piece around anymore.

DW: When I went to SPARK in 2006, they let me present the Kramer work. I kind of lied about the presentation of the Kramer work because there was no check-box for performers who were presenting pieces without the composer. Kramer had already died two years earlier, so I could not bring him with me. There is no forum for performers who want to present pieces that they think are cool.

MB: And there should be more things like that. Part of the problem with computer music is that composers are writing pieces that can't be performed unless they are in the same room. And that's something that we really need to find a solution for. I'm

as guilty as anyone, but I'm trying to get away from that.

DW: But I think a piece does have to start that way, at least at the premiere.

DP: There is some enabling technology that could help. Use a data representation exchange format that is not only both machine and human readable but machine and performer readable, rather than specifically coding to a Kyma machine or writing code in ChucK, etc. Nowadays the format would probably be XML. You run into this in lots of other application domains. I spent time doing interoperability testing in Asia where the common language was XML. You would spend time pointing at XML on a screen to work out incompatibilities between people who were generating media signals and people who were synching the media signals in order to render them. It's a similar sort of problem, but it boiled down to coming to agreement on a data exchange format that both people that were involved with it could comprehend it at the time that they needed to.

DW: I always thought we could have a big dialogue with our friends in the graphic arts, too. You've got all these MFA students whose portfolios are in Flash. How long is that going to last? Can you even get to your source code anymore for some project you did several years ago?

AC: Another solution is—do you know Jeff Herriot? He travels with a performer and they bill themselves as a duo and they do lots of different pieces.

SM: There are a few English examples. There's an English cellist named Neil Heyde who travels with an electronic composer, Paul Archbold, and they do concerts of lots of different music.

DW: A performer who has an engineer sidekick. That would be a great model.

SM: It's more of a symbiotic relationship.

AC: I see more and more of that.

SM: So do I.

JB: Earlier today, some of us saw a great example with Krista Martynes and Julien-Robert Legault Salvail.

DW: I've often thought of that. When I do my own concerts and when I'm bringing all the technology, it's very hard to concentrate and that's why I rehearse with the electronics so much. I practice everything from shutting down the system to putting it in the bag. Then I take it out and run it. And I do that over and over.

BL: It's like tuning.

DP: Students are good for that sometimes.

DW: I want to be able to do it myself. I want to be able to go to a venue, unpack, and put it together myself. I can put my clarinet together myself.

MB: It's like practicing scales.

DW: It's like that. This cable goes here. This cable goes here. And I don't think anymore. I just know where it all goes. But it's still difficult to perform and do that at the same time.

SM: You shouldn't have to be your own roadie.

MB: As much as I like the model Andy is talking about—it's a much more feasible one— it's much more rewarding for a performer to understand what's going on under the hood.

DW: But on the other hand, if I could have a technical assistant as well, and we could talk to each other, speak the same language, but someone else was actually responsible for setting up and making sure everything is running, and we could be on stage together. I don't really like the idea of a composer sitting at a desk out in the hall, while I'm noodling away on stage and I don't know what's going on. I feel like I'm half of an ensemble.

Unidentified Participant #3: Maybe we should approach these pieces less as a piece that I write for a clarinet player but as a collaboration with a performer who is going to take three months and will require more of a commitment out of the performer. Through that process they will learn how to operate the Max patch and learn about synthesis techniques. Otherwise you're just playing with structures. I want to hear that particular passage with that particular processing technique and see if it works for me long before the premiere and not at the last rehearsal.

DW: The other thing I think we are getting into, now that we have talked about the onus on the composers documenting better, there just needs to be more performers who will make that kind of commitment. I'm not sure how we get there. The program at Peabody—I heard about that as an undergraduate—I knew that's where I wanted to go. That's the only place I knew of that did that. That was fifteen years ago, and it's still the only place I know of.

MB: And there are still not may people like you that want to be computer music performers.

DW: But I hear from them, though. Clarinetists and flautists who ask me about Narcissus, and they tell me

that they really want to perform with electronics.

MB: Send them to Peabody.

DW: I coordinate a Music Technology program. It's not a composition program. I have students studying an instrument and they are also learning music technology, but more towards the recording side. But occasionally, I get somebody interested in what I do because I talk about it all the time. Some of them start to get interested and then they decide that maybe they should do something on a recital.

MB: And Jeremy, you're doing that kind of stuff?

JB: Yes, I am also trying to teach computer music performance within a program that was originally designed for students studying an instrument who lean towards audio recording. I go to computer music conferences, but since I play the double bass, I also go to the big bass conventions. I get routinely approached by younger kids who want to get started doing what I do. Apart from telling them I studied computer music performance at Peabody, I tell them all the things they need to do, but after my spiel, it seems impenetrable to them. The learning curve at first seems a bit overwhelming. Max is easy to use, but not to someone who has never seen it before. The payoff at the beginning is not enough to keep going.

DW: It's not just Max programming. It's understanding granulation. It's understanding signal processing and filter equations.

SH: As performers, there's so much preparation that needs to be done in terms of being able to play the part indicated in the score and being able to do it properly and in a fixed state and then trying to put the technical layer on top of that can become overwhelming. Meanwhile for the composer, they're constantly chasing grants or commission money, which means that the preservation of a work that's been paid for and won't be repaid for is of no interest to them. So they just keep driving forward. The gap, the part that's missing, is the technically dedicated mediator—the role in the middle—the guy that solves all of these technical problems and who is driven by the urge to resolve these technical problems. As a composer, you could say to this person, "I want to do this, how do I do that?" As a performer, you could refer to these people who are technically aware of the technical issues in a composition. Personally, I actually fit the description of that group and I've done a lot of work for a lot of people in that role, but I've discovered that it is a role that isn't really

acknowledged. As an illustration, over the last four or five years, there have been works where I would have wanted to claim some kind of technical consultancy. For example, Scott's piece was played earlier on this year. When Scott thought of the idea he came up to me with a description of a proposed project and asked, "Is this doable?" My answer to him was, "Yes, you could do it in six months." I knew that I could do it, and I knew that I could support him if he had a problem.

DW: And that's the role of the instrument maker that we were talking about.

SH: But I need to be acknowledged in that process.

DW: And you should be acknowledged. It's interesting that the composer and the performer would be expected to be there. And then there is a need for the technical role, but people don't bother doing it because their work doesn't get acknowledged.

SM: But it's not about the instrument maker.

DW: I played Hans Peter Stubbe's Bass Clarinet piece. They had a technical person as part of the original project. We didn't have that person here, and we faced enormous technical problems getting this piece off the ground because we didn't have that person here. If he had been here, things would have been much smoother, and I would have been much more relaxed.

MB: That, historically, has been the role of the instrument builder.

SM: If we take this discussion outside of the music sphere, and look at, for example, drama, you don't write a play without a stage manager, a lighting director, etc. That's their job. If a piece of music was written like that, there would be someone there dedicated to fixing the patch and setting stuff up. And that's what you're talking about. That role doesn't exist in music.

BL: How about this? Etude books for electroacoustic music?

DW: I thought about that when I was at Peabody. I was in the studio working with all the equipment, and I was thinking that there really needs to be a method book. For example, Etude No. 1: Exercises you can do with a multi-tap delay. This would not be for the stage. It would be for performers working in the studio learning how to perform with delay. Or even microphone techniques for computer musicians. So performers know how close they need to be to a mic, know the different types of microphones and when to use them, and know pickup patterns.

SH: But now you've already pulled away from the idea of a dedicated technical mediator. You're starting to facilitate the performer and give them more tools. I think the problem is that the task of technical mediation is too large for the performer. I don't think that it's so big that you couldn't have one technical person facilitating five or six performances in an evening.

KM: That exists already. There are companies that do that. There are two guys that call themselves Sound Intermedia. They are two guys that tour the world. Every opera that they are at, it's their responsibility to take care of everything technical. They are these two guys from England and they are financially supported by just their business, which is technical support for opera.

Unidentified Particpant #4: Does that business have a technical system?

KM: They are composers. They read music. These are the important things about them. They know how to read music. They are the intermediators. They are like "performer whisperers." So these jobs do exist. What doesn't exist is the money. For example, in Quebec, we have a bunch of grants. For applications, I never put "solo." There's another person there, and he should be paid as much as me. There are two people on tour. We need two flights and two of everything. There's also production. It's up to us to install a collaboration process. I try to be clear that I'm not going to just improvise and the composer clicks away. Instead I want the collaboration process to include a composition process that involves hours devoted to experimentation, development, and finally, performance. And we're not going to experiment during performance. We are going to perform what we worked on during the experimentation and development hours. It's the collaboration process. It's what we (as a duo) did for a year as part of our research. We had a microphone session. Then we had a speaker session. Then we devoted time to sound. Then we devoted time to images. Then we changed some image. THEN, we talked about making a piece. And it still needs more work: movement, lighting. It's at its most interesting because we are right at the theater level. Getting the money. That's the hard part.

JB: We have to convince administrators that the people doing the technical mediation are important. I don't know how many times I have had to go back to the person making the programs to include, in the printed programs, the crew involved in technical mediation. Their importance to the musical deliverable is obvious to me, but it needs to made

obvious to others outside of our area of expertise. At the very least, we have to go back to our home institutions and convince our cohorts of the value of the ones that take care of technical aspects, and maybe the money will start flowing.

KM: Or go to the theater person, and talk to them about their lighting and their technical rider. Install yourself in their mindset. They get as complex as keeping track of all their protection laws. We don't think like that. We come with our tent and campfire, and we try to make a little concert. But we need to get as serious as theater. This music is fantastic music. But if there is no technical support, the music won't be passed on.

Unidentified Participant #5: But the problem is how can you support something that's at the cutting edge of what's going on? You have to have technicians; you have to have a training process, which means formalizing the process. It's strange, if you had a formalized process in the first place, you wouldn't have a problem in the first place.

KM: The other problem is the performance practice. When a performer performs something, they acknowledge the composer. But performers tend not to acknowledge the guys in the back that are clicking away and making sure everything does happen. When I perform, half the time the composer is not there, and when I try to acknowledge the technical crew, the audience thinks the composer is present.

SM: Again, this goes back to the theater model. In music, acknowledgement of the technical crew is not thought of from the ground up. It's not part of the original conceptualization of the composition. It needs to be part of the composition right from the start. Who is going to be dealing with and mediating the electronics of a composition?

DW: The Kramer piece that I started with actually does have a role for a technician. There's a line in the score for somebody at the mixing console operating a matrix mixer and punching things in and out. And he is actually a performer on stage.

SM: Stockhausen pieces have that, as well.

SH: Perhaps the technicians just need to get a little more audacious about it. I have a background as a live sound engineer. I used to work theaters and gigs and all sorts of stuff. The prank that we used to play was we used to wander on the stage as extras in the middle of scenes. After doing five shows a day for a month and a half without being acknowledged whatsoever, we used to just dress up as

random donkeys and just stroll across the scene. Eventually we got our names in the programs and we got a bow.

Conclusions And Future Activity

This record of the discussion can be referenced for purposes of establishing a directed academic community engaged in formal discussions and research regarding the maturing sub-specialty of computer music performance. The content of this document relies solely on the contributed narratives and expertise of the participants of the International Computer Music Association's International Computer Music Conference 2010 Unconference Unsession on Computer Music Performance; it does not rely on secondary sources. It can be considered a trusted primary document that captured a one-hour discourse among computer music performance experts who were in attendance at the 2010 International Computer Music Conference.

In an ideal setting, this discussion would continue and mature beyond the unconference and identify established performance and technical production practices, codify a lexicon of terms and techniques, solve some current challenges like sustainability and notation, and promote computer music performance as a legitimate artistic and professional endeavor within the academic computer music community, the broader mainstream classical community, the underground experimental community, and the commercial music communities.

Perhaps at the very least, a regularly scheduled conference (or unconference) of computer music performers could be established. If interest and resources are sustained, an academic society and journal that mirrors the academic societies and journals that promote computer music composition and research could be established as well.

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Founding a New Field for the Study of Sonic Arts: The Inauguration of the Japanese Society for Sonic Arts

by Naotoshi Osaka
President, Japanese Society for Sonic Arts

Abstract

No organizations concerning the creation of music and related topics are known to exist in Japan, and there has been a need for such an organization. This article first introduces the history behind the founding of such an organization, and then states the organization's mission: to issue original papers. It is a natural mission, though it can be difficult for creators of music. Some strategies to support the organization in achieving its mission are also introduced. We also discuss a new framework for free-of-charge musical performances, which are linked to research presentations. Moreover, a strategy for internationalizing the organization is introduced; such a strategy will allow the organization's members to incorporate well-balanced information from all over the world into their compositions and research.

1. Introduction

It is a pleasure for me to announce that the Japanese Society for Sonic Arts has been newly founded and that a new electronic journal is being published. In the following text, I want to introduce the history of the society and want to describe the administration policy. Recently, in the area of engineering, a variety of music-relevant research has been encouraged and developed both inside and outside of Japan. Moreover, the number of newcomers in this field has been increasing. The computer music field, which is a subfield of art and engineering, is more precisely broken into sub-classifications such as algorithmic composition, sound synthesis, user interface, etc. The number of relevant international conferences corresponding to such fields is increasing as well, such as NIME for new interfaces, MCM for mathematic representation of music, and ISMIR for music retrieval.

This field is also positioned as multimedia art, and the border between fine art and this area has become unclear by forming a link to visual art such as sound art, which has developed from a stream different from traditional music, and establishing not only stage performances but sound installations, one type of advanced art installation.

Against such a background, corresponding new national or regional music-relevant societies have been founded and the chances to present music-related study are increasing.

On the other hand, although music-related societies have become more active, I have felt an insufficiency at the domestic meetings of such societies which does not happen at international conferences.

The most serious reasons are:

1) Composers are not present at such meetings.
2) There is little research whose application is electro-acoustic music creation.

These two become cause and effect for each other and form a negative spiral. The fundamental reason is that very few composers do research. I participated in ICMC 2007, and there met young Japanese researchers and musicians. There I had a thought that although members of the same taste can meet, there are no appropriate venues in Japan.

After two months, Prof. Kia Ng from the University of Leeds, UK, visited my laboratory. I organized an open lecture meeting in order to change the situation, and this became a good start for founding a new society. The event was known to Prof. Yoshinao Shiraki, who served as an editorial board member of the journal of the Information Processing Society of Japan, and he encouraged me to write an article in the journal to introduce a new society for both music-creation-related research and composers. However, I did not have the confidence to raise a formal society from the beginning. As a result, I organized a rather private society named ON-Juku centering on my university laboratory. In the name, ON means sound in general, and Juku is a type of private institute. After the second meeting it continued to the 6th meeting. These activities have been introduced in an article [Osaka 08].

In the end, I started to think that the society should be formalized. Since November 2006, a concert series "Media Project" has been conducted. Many members of ON-Juku have joined the concerts. I have thought that the concert and the research activities should be linked together since then.

A free group which holds research meetings leads a very weak existence in the eyes of the general public, and the author recognised that the general public would not view it as reliable or trustworthy. In order to apply for music or research grants under the name of the society, it is desirable that the society should be a reliable one. This thought lead me to found the new society, which

has a strong mission, and has a link with ON-Juku and concerts under the new name. In the next section, I would like to state the direction of the activities in the first phase.

2.Management policy of the society

Why do few composers do research in Japan? Many composers might think that composition is a private activity and far from a research activities. However, this does not explain the fact that far fewer composers do research compared with the situation in Europe and the US. We are not sure whether this is because we imported music from Europe selectively in the Meiji era or because our education system is different from that in Europe. Some other reasons might also exist. Although a careful analysis has been done in Ref. [Osaka 08], decisive reasons were not drawn out.

I believe that there are objective aspects and subjective aspects in the creation of music, and the objective aspect should be open to the public. Creation is not an indispensable item of high priority which allows us to survive, such as food, energy, and the environment. It does, however, serve a function to enrich our mental lives and play a role in the birth of culture. Therefore even if the explanation of activities is not enough, no one cares and the community will survive as long as those who are involved in it exist. However, the social aspect of the creation of music will decrease, and the musical community as a whole will be isolated from society in general. This idea comes from my background in engineering. In the engineering field, technologies are always expected to be open if they are to be seen as basic study.

2.1 Mission of our society

Then, what the mission of our society is and how the society should be managed will be discussed in this session.

In consideration of these above, firstly, the mission of the society, as the title suggests, is research centering on advanced art music. How the target music should be called has long been a topic of discussion among board members; computer music, electro-acoustic music, etc. After spending more than a month discussing it, the Japanese name is advanced music creation, if directly translated into English, and sonic arts in English, which do not perfectly correspond to each other.

It is self-evident so far, but research in the field is not only one of specific fields such as musicology, aesthetics, music perception, cognitive science, information science, and acoustic engineering, but widely includes all of these fields. Moreover, in addition to these, some new research views should be added. Here we call the field *Sosakugaku*, which in Japanese

means the study of the creation of music.

Moreover, one of the topics which is not often discussed is music theory. The other topics might be dealt with in other societies. However, it is discussed from the point of view of other societies, rather than from the perspective of creating music, since composers and musicians are largely not present. In my own case, there are some societies where I can present my own research output. However, its application to composition is not discussed. I believe these two aspects, engineering research and its application to composition, are necessary for research presentations.

In the sense stated above, this society will be a primary place for fundamental music theory research. I also expect that the society will serve as a meeting place for the scientific field of the application of research to the creation of music, and by being informed by such a mission, those who are involved in music creation will gather. Communication will be promoted, and through the sharing of common information, a community will be formed. Moreover, the new field of *Sosakugaku* is not a mere collection of already-established relevant fields of study. However, whether or not a coherent synthesis is achieved by incorporating these fields is a key standard for its recognition as a new academic field.

2.2 Strategies for pursuing our mission

Specific strategies are listed below to execute the ideas stated in the previous section.

1. periodic publication of original papers
2. organization of periodic research meetings
3. acquisition of both formal and real recognition in public as an academic society
4. clear formation of a social organization
5. execution of concerts
6. proposal of our own events in a style to be defined by our society
7. invitation of non-Japanese speaking members
8. invitation of members abroad
9. forming a consortium with other organizations

I will explain these in detail in the next section.

3. Publication of original papers and a consortium

Item 1 is the embodiment of the mission itself, and the basic function of an academic society. Although the discussion starts from this exact point in our society, there are few composers who do research in Japan. Young composers are not well trained to write papers at school, either.

However, in composition there is a process of observing subjects of interest objectively, and, I believe, composers can become researchers at any time.

On the other hand, because of the fact that many composers do not have the skills necessary for writing papers and there are hardly any chances to do so, there are opinions saying that forcing members to write papers in the first place will make them leave the society.

As long as it is an academic society, it is necessary to publish papers even if the frequency is low, and we need to have a strategy for it. We should make a clear plan: a numerical goal of the number of papers per year, and we have to proceed. At present, we have decided to issue an electronic journal correspondent to each research meeting.

In this first journal, although original papers are not present, we aim at the publication of a couple of original papers in the next two years. This is a first goal and in the meantime, our goal is that the publication frequency will increase so that it will become annual, with the eventual goal of publishing a seasonal journal.

In order to satisfy these conditions, we have listed up the following items.

3.1 Frequency of Research meetings

The frequency of research meetings in item 2 is a very important problem. If there is only an annual meeting, there are few chances for direct communication and the society becomes rigid. It is adequate to run a stable organization, but it is not enough for it to adjust itself to the era. Therefore efforts will be made to have a meeting once every two or three months.

3.2 A society recognized by the public

In item 3, we hope the academic society here becomes recognized by the Science Council of Japan, which gives us formal status as an academic society in Japan. There are some conditions which must be satisfied. The hardest barrier is the number of members. One of the conditions says the number of the members should exceed 100.

We have to consider strategies to increase the number of members. Until now this has not been the purpose of the society, but rather opinion leaders in particular fields have been invited. From now on an effort to increase the number of members should be made as well.

3.3 Incorporation of the society

Item 4 is not a necessary condition for item 3. However, a free organization is a weak one in the public eye and some incorporation will be aimed at this.

As seen above, items 1 through 4 are the necessary conditions for ordinary academic societies. However, our society is not a group of only researchers but also of composers. Such a society has not existed so far, and it is not possible to acquire all the functions which other societies have as a matter of course. We want to fulfill the requirements one by one, confirming their necessity for our society.

4. How research meetings should be conducted

Item 5 is a viewpoint born only by groups of composers. In our surroundings, there are so many occasions to perform composer's pieces. This society does not place providing occasions for the presentation of music piece as its first priority, but they will be presented either subordinately or parallel to research. By continuing such activities, new viewpoints might be established such that *Sosakugaku* is meaningful when it is presented together with concerts.

In reality, ICMC (International Computer Music Conference) functions similarly to that stated above. However, in founding the society, we set up music events as a subordinate activity since we cannot prepare both research and music at the same time, and the research aspect is weaker in Japan compared with other regions stated previously. Doing otherwise would reinforce the insufficiency.

Item 6 is an abstract statement. New business models for concerts should be considered and proposed from our society. Generally a concert organizer tries to sell as many tickets as possible to provide good music and concerts. In a submission form for music grants, ticket fee income is one of the important items in the budget.

On the other hand, in a research output presentation, admission fee varies from that of a ordinary concert to more than 10 thousand yen for a symposium or an international conference. However, there are several events with free admission as well. In general, researchers supported by competitive research funds, such as Kakenhi, should organize research presentations with free admission. This is as a matter of course, since the fee necessary can be submitted and included in the budget. In such a situation, the performance of music pieces organized by a research organization should be set up as an event with free admission.

New business models were born for free software, starting from GNU, and Google's free search service, and we all receive benefits from them. While the benefits of such a business model eventually level off, everyone accepts it as having been successful.

If we make music performance events simultaneously research presentations, the possibility of people attending the event because of free admission is enlarged. Larger audiences can be expected from these policies.

5. International Strategy

This society should be one with an international viewpoint. Here I mean not biased to one particular region by "international". Items 7 and 8 are established on this point. This society is based in Japan. However, in order to compensate for the lack of information domestically, we want advice and comments from members with foreign nationality, or the Japanese outside of Japan.

In item 9, it is stated that we want to have good communication with existing societies. A loose link such as a form of consortium is one of the solutions to this problem. Especially cross links with organizations abroad should be taken up with the highest priority. At present, Prof. Mara Helmuth, the [former] president of the ICMA (International Computer Music Association) and Prof. Mark Battier, the president of EMSAN (Electroacoustic Music Studies Asia Network) are members abroad, and we want to see if some collaborations can be made.

Art music is the main concern in the society. It is natural that we are strongly conscious of the trends of European music against the historical background. However, as music originally from Europe widely spread, many other factors are also incorporated, such as Japan's original viewpoints, American music culture, Asian/Oceanic culture, etc. Even though each member has been affected by a particular region, we want to make an effort not to be biased toward the culture of one particular region. Although the number of members is quite few, happily it seems we satisfy the conditions stated in items 7 and 8.

6. Conclusion

In founding a new society—the Japanese Society of Sonic Arts—the history of the foundation, mission, and administration policies have been introduced. Critical mass is necessary for the activities of an academic society. Based on the ideas introduced here, let us examine the contents of *Sosakugaku* and modify it, develop our society, and enlighten the public about the ideas established here.

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Naotoshi Osaka is a composer and an acoustics researcher. He received Bachelor's and M.S. degrees in electrical engineering from Waseda University in 1976 and 1978, respectively. He worked at the Electric Communication Laboratories, NTT, Tokyo, Japan, during 1978-2003. He also received a Doctor of Engineering in 1994. He has been engaged in research of telephone transmission quality, speech conversation, and computer music. His main research interest is timbre synthesis for both sound and speech. Since 1990 he has focused mainly on composing computer music and related sound synthesis technologies. He participated in ICMC '93 at Waseda University in Tokyo. Succeeding works include *Prosody++* for chamber instruments with live electronics, at Japan Today (MUSIANA '95) and Louisiana Museum, Denmark, ('95), *Sound Textile* for piano and computer ('98), *Shizuku no kuzushi* for violin, computer and orchestra ('99), and *Nubatama* for shakuhachi and computer ('01). Besides composition, he has also organized computer music concerts, such as the NTT Computer Music Symposium I ('97) and II ('01). From 1996 to March 2003, he led a computer music research group at NTT Communication Science Laboratories in Atsugi, Kanagawa. He is presently a professor at Tokyo Denki University. He is a member of ASJ, IEICE, IPSJ, ICMA and IEEE. He has served as an ICMA Asia/Oceania Regional Director. He founded the Japanese Society for Sonic Arts in 2009.

ICMC 2011 Reviews Centre for Research in New Music, University of Huddersfield, England

Concert 4 Monday, 1st August 2011 The Graduate *by Patricia Alessandrini*

The late-night concert of the first full day of the ICMC conference, Concert 4 of 13, began with Simon Atkinson's introspective, well-crafted acousmatic piece *interiorities iii*. This piece would not have been at all out of place at one of the midday concerts, but it turned out to have resonances with some of the other works on the program, particularly in its use of feedback. Despite the informal setting, *interiorities iii*, the third of a series of works intended for a CD release, demanded intensive listening, and indeed the composer himself described it as a 'deep-listening' work. Unfortunately, despite the high-quality speaker system (which once again belied the bar setting) and the sensitive diffusion of the first work, the concert subsequently suffered from levels which were unnecessarily, and sometimes painfully, high.

Mike Frengel's performance of his own *Hotbird* for electric guitar featured ingenious use of the instrument as a controller for the electronics. The piece opened intriguingly with processed bird sounds inextricably linked to the instrumental gesture and at the same time strangely disconnected from it, as the guitar was played at relatively low position on the strings to produce these high-pitched sounds, while the sound of the strings themselves could not be heard. It was therefore disappointing that somewhat common electric guitar sounds made their appearance soon after and dominated the succeeding sections. A welcome coda-like section of sustained chords seemed to want to end the work on a different note, but was too quickly cut off by a distorted guitar lick which insisted on having the last word.

The possibilities of guitar and electronics were further explored in *Whistle Pig Saloon*, with John Ferguson on hybrid guitar and Robert van Heuman performing electronics with tactile controllers. The experience was both aurally and visually engaging, especially for a duo including a lap-top performer, and well paced for a mostly improvisatory work, and they managed to communicate well enough to avoid too much awkwardness in ending the performance. Unfortunately, the performance lost some clarity due to the

overly-loud diffusion; I've seen the guitar and glitch duo perform on a previous occasion (at the Sonorities Festival this past Spring) at edgy but reasonable levels, and the experience was much more appreciable.

The works up to this point had some interesting correspondences, not only in the obvious relationship between the pieces employing guitar, but between the pulsations of the duo and the beatings of the acousmatic work. This latter theme of the concert was neatly taken up once again in the performance by Nicolas Varchausky, *Speaker Performing Kiosk [The Huddersfield Sessions]*. As soon as Varchausky took his place in the midst of a circle of six speakers, it was clear that he was going to perform with his body, and his performance did not disappoint, constantly renewing itself with new gestures and positions with unexpectedly rich sonic results. In addition to his black jumpsuit, he was equipped with a wireless microphone in each hand, which allowed him to expressively control feedback and to use his body to affect the results. The possibilities offered by different hand and body positions allowed Varchausky to create both a new sound world and a new choreography for each section of the work, and to develop new correspondences between gesture and sound.

Speaker Performing Kiosk inscribed itself in another theme which emerged from the program, that of physical performance and visual staging in relation to electronics. While in *Hotbird*, the identity of the guitar ranged from electronics controller to the more common tool of the 'guitar hero', the duo of van Heuman and Ferguson sought out a somewhat equal performability of the guitar and the laptop, and Varchausky brought gestural control of sound to its most literal and physical extreme. The last performance, *Gracht* by Donna Hewitt and Julian Knowles, nicely framed the concert by consciously confronting notions of roles and staging: the duo deconstructed the conventional stage image of an accompanied singer through sensor technology, most strikingly by using the singer's microphone stand as a controller. Although the performance was somewhat undermined by the prominent presence of a laptop onstage, the consultation of which seemed vital to the performance and thus distracted from the stage image, the transformation of mic-stand gestures into functional and expressive musical actions left a strong impression, and the desire to see further creative exploration into the potential of exploiting existing musical gestures for the expressive control of electronics.

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Monday, 1st August 2011
Audiovisual Works
by Andrew Connor

As I have a particular interest in audiovisual compositions, I've approached the idea of reviewing ICMC performances from a slightly different angle. Instead of reviewing concerts in their entirety, I have specifically focussed on individual audiovisual pieces shown in the concert halls and in the listening rooms.

Starting with the listening room works, we had three audiovisual pieces on show today: Louise Harris's *Fuzee*, Andrew Hill's *Perpetual Motion*, and my own *Study No. 2* (which I cannot really review objectively).

Fuzee relates to a clock mechanism, a cone-shaped pulley with a spiral groove. As the screen fades from black, it is perhaps then surprising to see a jumble of what looks to be thin straight plastic strips in layers fading into an unfocussed white background. However, the sound immediately establishes the context with clock chimes, ratchet clicks, and winding noises, and the lines quickly move in response, twitching in sympathy with the clicks and curling into tight spirals with the chimes. The piece progresses through an exploration of the sounds of clocks, initially quite gently with chimes dissolving into and out of harmonics, and gradually introducing ticking clock mechanisms. The mood moves from a gentler introspection into a greater, relentless drive, particularly fuelled by the ticking, with the lines now curving and tightening into small, thick circles. The detail of the ticking sound is also mirrored visually in striations within the curled lines, an internal skeleton also moving in quick, jerky but regular rotations. The pressure builds with the increased ticking, noisier ratchet sounds, more insistent chimes, and the spirals on screen lock into ever tighter and smaller circles until, with a final decisive click, the tension is released and the lines straighten out gradually to the return of a gentle clock chime.

This work is well structured, taking enough time to establish the correlation between sound and vision. Just at the point where the connections have been made and the piece could have outstayed its welcome, the increasing tempo and building of tension as everything speeds

up and gets more constricted draws the audience in, with the release and relaxation providing a satisfying ending.

Andrew Hill's *Perpetual Motion* is also very satisfying. The work starts with an indeterminate meeting of three lines and a gradual introduction of a repetitive mechanical noise. It develops into upwards movement in screen and sound, an ascent to an apotheosis of white and an introspection of high frequency rising notes and highly processed upwards movements on screen. The following middle section is stable in pitch, with horizontal movements on screen – here the reality of the source material bleeds in, with the delicate texture of wood offering an optical interest against the mechanical noise of machinery moving against itself. The sounds start to move downwards in pitch, and the visuals change to match for the final section, a descent downwards to a final resting state of full inertia.

Both the video and audio materials were recorded from a single source, a paternoster lift. The processing of both elements allow for a highly ambiguous interpretation as the piece starts; it is difficult to even establish what the base material is behind the manipulated colours, changes in focus and the processed sounds. The development into an identifiable visual source does not detract from the sound world; rather, it adds the interest of a definable texture, but retains an ambiguity about the exact image source, again allowing for a variety of interpretations. The final descending sequence feels never ending, with constant downward glissandi implying an eternal decline, yet the disappearance into a reverberant emptiness still offers closure. The entire piece is extremely well realised, with each section contributing to a very engrossing whole experience.

In the lunchtime concert (2a), two audiovisual pieces were programmed, though we were able to see three due to an unfortunate plane delay for one of the performers.

Chikashi Miyama's *Quicksilver* tantalised with its programme notes – organic unprocessed audio accompanying a very artificial animated rendering of liquid mercury. The visuals were definitely stunning; having used Blender a few times, I am very impressed with the skill shown in creating a believable world of heavy liquids, a succession of images of mercury droplets being thrown up from a main body, scattering through the air, and merging back into slow-moving reflective rivulets. On the visual side, this work delivered big time.

However, the audio, for me, really did not stand up to the video element. The

majority of the sound was quite light in tone—a sequence of fairly high pitched vocal noises—apart from a single much more satisfying episode of growling and throaty gargling. Miyama notes that he is investigating contrasts, so it may be that the lighter audio tone is a bold move to contrast with the heavy visual movement, but the resultant mix is imbalanced, and I ended up feeling that the piece might actually have been better presented as silent video—a strange sensation in such a sound and music rich environment.

Due to Alexander Schubert's unfortunate plane problem, Jean Piché had the opportunity to introduce his programmed piece *AUSTRALES* with its antecedent *BORÉALES*. Both pieces had highly intricate video elements, delicate ever-mutating and highly defined particle streams based on underlying video footage.

In contrast to others I spoke to after the concert, I found *BORÉALES* a slightly more interesting experience than *AUSTRALES*, although I found both to be highly engrossing. The shifting, shimmering sounds in *BORÉALES* seemed to me to fit more closely with the images, giving a more satisfying overall experience, while the voices heard in the audio element of *AUSTRALES* came across as a bit intrusive, too 'real', seeming to divorce an otherwise equally appropriate soundtrack from images which actually seemed more engrossing than the earlier work. However, both impressed with their overall composition and retained full interest throughout.

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Tuesday, 2nd August 2011 Audiovisual Works *by Andrew Connor*

The second day of the full conference has been quite exhausting, with so much of interest to try and get to. It's definitely a good place to see how people are interpreting and creating work that can be seen as audiovisual. In addition to the more straightforward sound and video work to be experienced in the listening rooms, the concerts also had a couple of performances that linked audio, video and live performance. It's been inspiring – and a bit daunting – and certainly very impressive.

Listening Room 2b featured two audiovisual works today. Min Eui Hong's

Between Sleep and Wake starts off with low frequency sounds and harmonics, leading into ominous low tones against scattered, rattling noise. The visuals consist of high contrast monochromatic shots of light glancing off waves, rippling lines of white against a heavy background of black. As the work develops, the harmonic filters produce longer sustained pitches against gestural noise while the rippling waves on screen increase in animation, overlaid with larger, slightly out of focus versions of the same monochromatic ripples. The sound and vision build, then dwindle down in intensity as the work draws to a close, almost (but not quite) resolving the sense of tension and unease.

The use of a monochromatic palette focuses the eye on the wave movements and interactions, while the sounds are equally simple in isolation but combine and build to shift and merge in the ear. The combination works well, and inspires a sense of unease that is sustained throughout. From the notes, the composer's intention was to represent the dreaming, REM portion of sleep, which I think has been accomplished here, although I think the dreams involved are not blissfully happy ones.

The second piece was David Hyman's *Other Music To Dance To*. In this, Hyman has taken video and audio content from a performance by the dancer Maya Plisetskaya. He manipulated both to create an exploration in controlling the expression of her dance by varying the speed and direction of the playback, mirroring the control of movement for which Plisetskaya herself was famed.

Another monochromatic work, the starting image is an abstract, unfocused grey blur against a defined melody that contains glitches and archival artefacts. The visual focus resolves to reveal the dancer on a stage setting, frozen in place, then released to follow the dance in time with the music. As the work continues, the footage speeds up, slows down, and reverses to review and explore moments in the performance. For me, the most effective manipulations occur as the dancer hangs still in the air, the sound completely stops, and the image is processed to change the contrast, thin the arms and blur out the features until the pose is everything. But the other parts of the work are a bit too much; by the time it finishes with the dancer poised mid jump, it has all been a bit too busy, too manipulated. The work has some great moments, but I ended up feeling that in some ways it was more of a technical exercise where the emotional impact of the content was obscured by technique.

When planning out my attendance schedule for the day, I little thought that I'd also want to write about some of the

live performances at the concerts, but a couple of them combined instruments, computer music and video in exciting formats. In Concert 5, Patrick Saint-Denis presented *Trombe*, which combined flute, audiovisuals and a feather! On stage, we were presented with a large projector screen at the back, a smaller freestanding screen on the right, Richard Craig on flute on the left, and a highlighted feather beside the smaller screen.

The combination of flute and processed sounds worked well, and meshed with a video presentation of 'noise' (lines and dotes running across both screens). At intervals, the breathy short pulsing of the flute matched perfectly with a series of horizontally pulsing dots on screen, while at other times stylized landscapes appeared on one of the screens, with an almost water-colour wash effect softening the images. On a couple of occasions, the feather was singled out with a spotlight. This was the weakest part for me, as there seemed no reason for this, although there were a few technical hitches during the set-up at the start of the piece, so that might have affected the feather's 'performance'.

The overall impression was a busy, constantly changing immersive experience. It was possibly a bit too much of everything all at once; I kept switching attention between screens, flautist and feather, always feeling as if I was missing something happening out of the corner of my eye. But I'd very happily go and experience it all again.

In Concert 6, *Chute libre* by Julien-Robert Salvail made full use of the excellent space afforded by St. Paul's Hall. A sizeable ensemble of instruments played live against processed sound while a screen hanging above their heads depicted an engrossing narrative. An aeroplane is seen, preparing for and then taking off, accompanied by suitable uplifting music. We move with the plane to reveal a cloudscape, which grows and changes to show increasing turbulence, and the music grows in intensity and detail to match. We move into a storm, then into a vortex of streaming red lines and curves, objects battering into the screen as we fall further into the eye of the storm. The music reaches a climax as the peak of the visual action also hits: an explosion into white, which is revealed as the music relaxes to be a light fabric, billowing and folding as it collapses. The white turns to a deep rich red as the music draws to a final, quieter, finish.

The combination of all the elements felt very well accomplished. I found it interesting as well that, while the action on the screen built towards a climax, the majority of the audience stared fixedly at that instead of at the musicians, who

were equally interesting as they built up the effort and exhibited their technical skill in performance. The dominance of the visual element, particularly where an on-screen narrative was presented, was definitely in evidence here. But this did not detract in any way from the work as a whole, as this was obviously how it had been designed to work.

Despite beginning to flag, I was very glad I also made it to the late night Concert 7 in the Graduate bar. On stage, in her *TSC 3*, Angela Guyton threw paint and pulled brushes against a pristine canvas to create an abstract painting while the sounds of her efforts were collected by microphones and fed to Rodrigo Constanzo and Anton Hunter. They then created an accompanying soundscape using only these sounds of artistic creation as sources. This was a new version of audio-visual art again, an eventually still image developing and morphing as we watched, with the act of creation emphasized by the sonic interpretation. It was engrossing and exciting to watch, though I am left wondering: if she does this a lot, where on earth does Guyton store all those huge canvases?

Concert 8
Wednesday, 3rd August 2011, 11:00/4:30
Phipps Hall
by John ffitch

Concert 8 was given twice on account of the room size. I attended the second performance, in which there were five tape pieces and a video.

The concert started with a bang that made me jump, as Horacio Vaggione's *Points Critiques* began. Throughout the work, the prevailing sounds were of percussion, and that unified the piece. The other main sound was a swarm of clicks, probably from percussion as well. Structurally I described this to myself as a sequence of grand gestures ending with the swarm of clicks. These gestures were short and usually of a similar length. I was just getting a little bored with this small scale structure when there was a change to the grand gesture + a chord, twice and it ended. This is mainstream acousmatic work with continuous sounds; if that is what you like, it was good of this style.

The second piece was Peiman Khosravi's *Convergences*. It started VERY quietly, a great contrast to the first start. A feature of the piece throughout was the amplitude range. In contrast to the first

piece, the phrases were long and had considerable variation, with new material emerging organically from the previous parts. There was energy, reflection and—above all—control. As you can tell, I really liked this piece, but to be fair I had heard it before, and this was better. The other feature was the use of space; there was variation, but also intent.

Video is not my thing, so my comments on *Sinus Aestum* by Bret Battey may be unduly biased. At least the images did not make me cover my eyes from flashing and strobing. Also unusual for a video piece, the images changed with the audio. The visual component was a large collection of spheres that moved, leaving a decaying trail. The effect was of strings of beads in many changing configurations. I was less happy with the sound, which was mainly chords with some swept parameter. I suspected some kind of FM but the paper on Monday says otherwise. I did not attend that presentation and it is possible that as a consequence I missed something. I did also wonder why, after all that synchronisation, the audio stopped before the video.

Following a short interval, the concert restarted with *La cite de verre* by Valérie Delaney, which started with what could be best described as footsteps on a metallic surface. I was enjoying this when abruptly it changed to a physical recording, people talking and a piano, as if in a piano bar. I was wondering why when it became more abstract. The piano made a short reprise but I felt happy when the footstep sound returned. That proved to be the ending except for one note afterwards, at an unrelated pitch, perhaps suggesting there is a continuation somewhere. The program note which I had managed to read in the interval did not give me much of a context.

The fifth piece, Sam Salem's *Dead Poets*, was very long at over 20 minutes, and in 4 sections (at least according to the notes). Abstraction of recordings in an extreme *musique concrète* style were interspersed with voices and traffic. I was not sure I could call it a soundscape or not. For me the effect was of a lack of emotion, a cold observation of events without involvement. There was a rare section of humour with telephone tones and an operator announcing failure, mixed rhythmically with traffic horns. This piece was not for me; it was interesting but somehow lacked music.

The concert ended with Dan A. Tramte's *Nomos Delta*, which started with a duet for spring sounds and scrapers, with a growing undercurrent of ringing gongs. I was enjoying this and the interactions when abruptly we were in glitches and fragments of noise and lots of silence. The piece evolved through other scenarios

before providing arguably the best ending of the concert. I wanted to hear the piece again.

At ICMC concerts I often wish I had time between pieces to read program notes and prepare for the varying sound-worlds. I realize that this might increase the required time, but a little more light during the desk handover might be all I need.

So, in sum, it was a concert with variety and some very satisfying pieces.

John ffitch has just retired from the Chair of Software Engineering at the University of Bath.

Wednesday, 3rd August 2011 Audiovisual Works
by Andrew Connor

It is the halfway point in the Conference. My body is beginning to remind me that sleep is a necessity, not a luxury. Due to the keynote speech and conference banquet, the schedule contained fewer concerts than the other days, but there was still plenty of audiovisual work on offer.

In Listening Room 3b, I came in halfway through the cycle to start my day with Joseph Hyde's *Vanishing Point*, a work that from the start established a frenetic pace in sound and vision. Although the composer notes in the programme that the colossal number of images seen are deliberately wide ranging, my abiding impression is of a train ride through memory, with some of the rapid, speeded up video elements appearing to me as snapshots from a train window. The monochrome images pass by and morph into each other at high speed, with recognisable elements such as a child's face, or a sea shore, juxtaposed against the pattern of light on waves, a white noise snowstorm, and an insect's view of long grass, amongst many others.

Accompanying this visual array, the sound all stems from a single noisy source, processed only using comb filters. However, this process has been exploited to the fullest, allowing a high degree of correlation between noisy images and the noisier sound, while harmonic and inharmonic chords mingle to good effect, particularly in a late sequence where low noise and harmonics accompany what looks to be smoke passing across the screen. Overall, the time and care taken to select the images and the appropriate manipulation of the sound source add together to create a very satisfying whole.

The next audiovisual work to pass through the cycle was *A Cancelled Glow* by composer

Stephen Stanfield with visuals created by video artist Matthew Stafford. This also had quite a busy, frenetic pace in both visuals and sound. Here, the intention behind the piece is given as an expression of oppression, with the images and sounds getting darker as the light fades.

For me, the sounds and visuals were individually good and striking, but I didn't feel the sense of connection between the two that the creators intended. The music does indeed progress through discordances, lowering of frequencies, as if everything is closing in, and the video also uses recognisable objects and animated painted sequences (I appreciated the nod to *The Scream* at one point) to then break them down, overlay and re-reference them as a closing in of kaleidoscopic images. However, apart from the occasional moment such as a match between pulsing microbes on screen and a beat discernable in the sound, there was little synchresis or synchronisation in the work. That's not necessarily a problem, but in this case it seemed a necessary part of the experience that was somewhat absent.

From the frenetic video and sound of these two works, *Pranayama III* by Elliott Grabill (sound) and his father Vin Grabill (image) headed into much calmer waters. Here, Elliott has based the sound around a single note, D, mainly using piano harmonics with some added vocal and synthesized elements. The work starts with a low, resonant harmonic chord, which continues in a cyclic, modified form as successive chords pulse against the onscreen, highly abstract visuals. These progress from colour saturated processed images, possibly based on landscapes, through interacting horizontal and vertical ripples, to slightly busier (though still fairly abstract) scenes. The music is low, soothing and contemplative. The images possibly come across slightly busier, but still also lead the viewer into a meditative state.

The fusion between sound and vision seems to have worked better for this work, and it does exactly what it sets out to do: provide a relaxing, contemplative audiovisual immersion.

At lunchtime, Concert 8 featured only one audiovisual work, but it was an excellent choice. I have to admit to a familiarity and appreciation of Bret Battey's work in general, and welcomed the opportunity to see *Sinus Aestum* in such a suitable venue.

Earlier in the conference, Battey had outlined the creative process behind the design of his sound in this piece, using SuperCollider and Max/MSP to apply a large number of control parameters to an expanded recursive comb filter (for

details, please refer to Battey's paper in the proceedings). By manipulation of the parameters, he has created an immersive composition of shifting pitches and noise, all stemming from a single source input. Against this, he has also created a highly detailed visual experience, made up of thousands of swirling and shifting points of light, warping and transforming to create waves of patterns sweeping across the screen in sympathy with the audio. As with his sonic creation process, Battey has translated an animation process initially created using the Processing environment into a bespoke plug-in for Apple Motion 2.

The resulting amalgamation of crafted sound and vision is intensely attractive to watch and hear, and has so many passages of fascination, I will only highlight my personal favourites to give you a flavour of the whole. A few minutes in, the swirling patterns stop, coalescing into a into a delicate spiral filigree of particles, seen from the side, hanging and rotating slowly in space as the sound holds and expands on a richly augmented humming pitch. Suddenly, this spiral starts to rotate at speed, creating more patterns from its own interference trail, culminating in a sudden stop and freeze into a new position as the sound then takes its place in the limelight, rising or lowering in pitch until a new equilibrium is reached, at which point the cycle starts again for the visual element.

A later sequence has a high-pitched skittering frequency, reminiscent of a bow just skipping on top a high violin string, as the patterns on screen form a minimal swirling set of curves along a central horizontal line. With even higher crystalline white noise behind the main pitch, I had an impression of alien hieroglyphs corresponding to a form of radio broadcast. This then rapidly disintegrates into a sea of noise and descending pitches, against images of light blue and green clouds battling against each other and pouring across the screen.

This work is richly detailed in both media, and is best served by its presentation in a multi-speaker format with a large screen. With the added bonus of the earlier presentation giving us some of the secrets of its construction, this has to be my favourite audiovisual work at ICMC so far.

Concert 9
Thursday, 4th August 2011, 12:30pm
Phipps Hall
by Howard Kenty

Phipps Hall, a fairly acoustically dry space with a surround speaker configuration,

seats approximately 100 people. This program was repeated at 2:00 PM the same day; this review deals only with the 12:30 concert.

The first performance consisted of two short pieces from Eric Lyon's *Selected Noise Quartets*, featuring the Noise Quartet (Steve Davis, drums; Eric Lyon, piano; Franziska Schroeder, saxophone; and Paul Stapleton, electric guitar). The performers generated all sounds acoustically (save the guitar's amplification); the electronic elements here wirelessly delivered text instructions to the performers via synchronized computers. These instructions were apparently often new to the players and/or impossible to execute literally, and as their selection and order was chosen live by a computer program, each performance is different. It was indeed quite "noisy," in the manner of avant-garde free jazz. The players were all gifted improvisers, and handled the abrupt starts, stops, and aggressive dynamic and tempo changes with aplomb. Though the pieces are by nature of an uncertain structure, and would perhaps have benefited from a more composed form, the performances were enjoyable to watch, and an interesting variation from standard ICMC fare.

Next was Bruce Hamilton's *Pental*, an acousmatic work. The brief program notes listed "noise, xenharmonic tunings, drone, soundscape, improvisation, and periodicity" as used in its creation, but left the composer's conceptual intentions opaque. Though I was unable to distinguish the five continuous movements mentioned in the notes, the piece proceeded very naturally, constructing a sonic narrative while successfully integrating the diverse compositional strands, often exploring the chaotic points in which the material degraded into "noise." The source materials all seemed synthetically generated, or processed as to be practically so, save for the piece's last, faint minute of actual humans talking, perhaps at a family gathering. This provided a very compelling and effective coda, giving the previous material a satisfying conclusion via this new but somehow related contextual framework.

mikro:strukt was an audio-visual piece composed by Alo Allik in collaboration with Satoshi Shiraishi, who performed live on the e-clambone, a proprietary wind controller activated by blowing, utilizing button sensors, and changing the instrument's length, position, and orientation. This produced little acoustic sound, but its miked output was used to control the audio and visual electronics. Though augmented by the responses of autonomous listening agents, the performer's interaction was largely apparent as the piece

gradually progressed from sparse, low-register ambient textures with the odd click or thud to more spectrally complex, aggressive swirls of swooping, pixelated synthetic grains whose density occasionally verged on noise. As the piece built in intensity toward its latter half, the interaction between performer and output became somewhat less apparent. Visually, though the mutating grids of colored blocks and shapes responded appropriately to the performer's actions, I feel that more could have been done to make the visual material as central to the piece as the audio, instead of using these simplistic forms and color palette. Though texturally and conceptually interesting, I think *mikro:strukt* would be well served with more structured improvisation to make a similar but more concise artistic statement.

Dale Perkins' acousmatic *Cuckooborough*, a minimalistic piece, established a major 7th chord bed of a hypnotic, low-register pulse and sparse diatonic synthesized phrases, accompanied by an unprocessed female voice softly vocalizing scratchy, wordless melodies. The timbral and spacial differences between the synthetic and human elements contrasted nicely, and the primal nature of the vocalizations evoked the titular avian. After essentially remaining in stasis for two-thirds of its duration, slowly incorporating processing into the vocal variations, the entrance of a heavily vocoded, dissonant vocal sample marked the piece's descent into a more climactic, chaotic state, and the steady pulse was replaced by erratic glitchy percussive noises while the vocals agitated toward growling and shouting. Even on the pulse's return, the glitches and singer's distress remained, evoking the simmering tensions of society mentioned in the notes. It was an enjoyable piece, though I feel a more complex structure, less abrupt ending, and performance with a live singer would enhance its impact.

Shawn Greenlee's *Endolith*, for live audio and visuals, followed. Both were generated using "graphic waveshaping" via input from a live camera, in front of which were placed mixed-media paper works, with the composer additionally operating a "multi-touch trackpad and turntable-like spinner." Unfortunately, this did not translate into an effective piece. The sonic palette varied little from record-scratch-like squiggles of almost-noise manipulated via the controllers, overlaid on a slowly evolving, low-register drone. The visuals never changed from a pixelated, shifting horizontal center line that ranged up and down, dividing the screen into two portions, the bottom containing moving vertical lines of processed input, and the top containing static, striated cross-sections of material affixed by the horizontal center line as it moved. Though both audio and visuals

occasionally produced engaging material, and Greenlee maintained an admirable intensity during his performance, this would have functioned better as a technique demonstration, or a shorter piece with a more varied palette and form, rather than a lengthy improvisation with little development.

The last piece was Jordan Munson's *Those That I Fight I Do Not Hate*, for bodhran (Scott Deal), electronics, and live video. Deriving its title from the Yeats poem, "An Irish Airman Foresees His Death", the visual element consisted of old footage of soldiers heading to war, marching, running, and eventually falling on the battlefield, looped repetitively and increasingly processed into a gauzy haze. The piece had a simple structure, beginning quietly, with the rubbing and scratching of the drum head melding nicely with electronics of similar timbre. This eventually crescendoed into waves of rhythmic beating on the head, sides, and back of the drum, building to a climax of greater intensity mirrored in the visual images, before a gradual decrescendo was accompanied by the haunting shot of a soldier slowly shaking his head and a fade to white. The overall effect was simple, somber, and rather moving.

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Concert 10
Thursday, 4th August 2011
St. Paul's Hall
by Miriam Akkermann

Scheduled as an evening concert, No. 10 took place at St. Paul's Hall, a former church built in the 18th century. I mention this because the venue did a great job of creating a light but focussed atmosphere, especially for the works that appeared on the first part of the concert (after changing the program schedule), which all presented smooth, pensive sounds.

Joao Pedro Oliveira's *Entre o Ar e a Perfeição* for flute, piano and electronics opened the evening. Flo Menezes' diffusion techniques underlined the included gestures, but at the same time integrated the tape, flute (Richard Craig) and piano (Sebastian Berweck) to a common sound representation.

In his work *21st Red Line* for 20-string Koto, Ai Kamachi extended the traditional Japanese instrument with a

laser string, so Yumi Kurosawa could include the control of live electronics in her performance on the Koto. The visual programming by Saturo Higa underlined the phrase-wise seeming improvisation, but also gave contrast to the subtle sound and appearance of the Koto.

Thin, quiet sounds emerged from the electromagnetically prepared piano (played by Sebastian Berweck) in Per Bloland's work *Of Dust and Sand*, which sometimes seemed to be even too quiet despite the sounds of the alto saxophone (Eleri Ann Evans) when creating an almost-static but increasingly dense cloud of vibrating frequencies.

Performed by Se-Lien Chuang on bass recorder, Evans on saxophone, Heather Roche on clarinet, and Andreas Weixler on laptop, *Momentum Huddersfield* (by Chuang and Weixler) incorporated sensitive improvisation and live electronics into an initially static, then cumulating sound, which was contrasted by real-time visuals. The spatialisation was especially notable, enhancing the acoustic impression of the venue from that of a concert hall back to a church.

After the interval three very different works followed. In contrast to the more sound-focussed works of part one, the following pieces concentrated on conceptual ideas including ironic surprises and interaction of the audience.

In *Oli's Dream*, Jaroslaw Kapuściński reacts on the video that was produced in collaboration with Camille Norton. Virtual protagonist Oli manifests via the onscreen emergence and dissolving of letters from Norton's poem. These events are also closely watched and responded to by the pianist, opening a further, more emotional dimension besides the illustration of sounds to the video.

An unconventional start had Mike Solomon's *Norman (age 1)* in presenting a basically white browser window with three links for the three movements of the work, with the cursor starting the files, and projected on the screen behind the soloist (Roche). The clarinetist accurately followed the score that slowly started to transform in movement 1, and culminated in movement 3, jumping between outspread fragments, including graphics and sound descriptions that were guided by a computer generated, laser-pointer-like red dot. Not only was the ironic visualization of the composition enjoyable; so was the clarinetist's performance.

The last piece was Dan Weymouth's *Unexpected Things*. Starting like a conventional piece for tape, violin (Darragh Morgan), and piano (Sebastian Berweck), it increasingly varied from this.

With a "start" sign, the pianist indicated the audience to begin their participation of slide whistling, encouraging them and also stopping and thanking them. The performance ended with the recorder-playing pianist leaving the room followed by the imitating violin. Especially successful was the integration of the audience's interaction in the middle of the piece, which underlines the remarkable overall impression.

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Thursday, 4th August 2011 Audiovisual Works *by Andrew Connor*

It is the fourth day of the main conference, and my last, as I have a prior commitment requiring me to leave early tomorrow. But it's a great day for audiovisual work, with a fine example on show in the listening room, and visual elements cropping up in a swath of the concert pieces.

Diego Garro's *Patah*, in Listening Room 4b, carries me on from the high of yesterday's *Sinus Aestum*. This is another work I've encountered before, but the opportunity to experience it with a good screen and set of speakers is not to be missed.

Patah is an Indonesian word for fractures, and Garro notes that in this work he is exploring how the sonic material interacts with the fractures in the visual material. The sound is introduced over a title sequence, but immediately set a rich, textural scene, laden with dissonances. The visuals also add to this impression of rich texture, with intricate interlacing lines creating shifting entities of colour on screen, interacting with the sonic movements to amplify the eerie and slightly uncomfortable world being created. Every so often a discernable voice will break free of some background whispering, adding to the unease. The visual equivalent, a flash of the underlying source video being manipulated by the animation process, will also break through on occasion.

While this work has much to impress the audience, the most attractive part of it to me is the space it gives both sound and video to develop and feature their own pathways, as well as interact and reinforce each other. As a single example, at one point a central, slightly oval shape begins to develop, in tandem with an expanding textural sonic shape. A single lens flare

suddenly flashes across the screen and is gone – there is no direct sonic match, but the flare adds that extra dimension to the animation. Highly recommended.

The lunchtime Concert 9 offered another three pieces with a visual component. In Alo Allik's *mikro:strukt*, the sounds produced by Satoshi Shiraishi's bespoke instrument, the e-clambone, were augmented by processing based on signals from integral haptic sensors. Allik took the incoming audio and used it as a further source to trigger changes in the accompanying visuals. The initial impression was of a screen full of regular cells, mostly green, which started to pulse in sympathy with the audio. As the sound developed in depth, texture and complexity, so did the structures on screen, with more colour and variation, moving from cells to a dot matrix, with the regular spacing deforming as the sound gained granularity and texture.

The direct correlation between the sound and visuals tied this piece together well, and I was impressed with the overall impression of complexity afforded from quite simple structural elements on screen. I was a bit less satisfied with the sonic element – in some ways, it would have been good to see the instrument and its operation on its own at some point, as the undoubted skill it took to play was lost in the darkness surrounding the projected images.

Shawn Greenlee's *Endolith* definitely took the idea of combining audio and visuals and played with it convincingly. His starting point was a paper multimedia score, scanned and interpreted on screen in expanded pixels. The images were also used to feed a sonic synthesis process. As with *mikro:strukt*, this immediate correlation between sound and image created a strong synthesis between the two, which could be manipulated further by the performer using trackpads and other sensors.

The close match between sound and image worked well for this piece, and the performance element was visible as Greenlee was illuminated by the lower part of the projected image. The pixellated images worked well with the sonic interpretations, and I particularly liked the moments where the scanning lines produced images reminiscent of the stacked paper edges of books lying on their sides. The piece's duration was also nicely judged – enough to illustrate the concept and develop it, but not so long that it became overly repetitive.

The final audiovisual work in this concert was Jordan Munson's *Those That I Fight I Do Not Hate*, a combination of live bodhran, processed sound and accompanying video. The instrument and

its player, Scott Deal, were highlighted on stage, allowing his movements and concentration to be seen clearly while the images played out across the screen behind him. The source sound from the instrument was clear within the processed sound, which added some pitched material and reverb. The images were from battlefields, showing soldiers marching to the front, the squalor of the trenches, and the aftermath, broken men and corpses.

The use of the bodhran was very effective, and the light but appropriate processing added well to the sound. However, the visuals just didn't quite work for me – while I appreciate the inspiration the composer quotes in his notes and I could see the connections he was making, there was little true synthesis between sound and image. I ended up only glancing at the screen every so often, as I found the bodhran caught much more of my attention.

The evening Concert 10 continued to feature audiovisual work, mainly in combination with live instruments. The first of these, Ai Kamachi's *21st Red Line*, made use of a laser beam attached to the soundboard of a koto, which when broken would add a transformative process to the instrument's sound. I have a particular fondness for the sound of the koto, so this was always going to appeal sonically. The visual component was a developing field of intersecting lines, flashing with red when the red laser beam was disturbed, and cycling through a series of geometric transformations.

As with the earlier bodhran piece, I found the visuals were possibly an unnecessary addition. In this case, the synchronisation was very close, and it had the unfortunate effect of bringing media player visualisation software to mind. Again, I ended up concentrating much more on the koto and the skill shown in playing it, with only the odd glance up at the screen. I ended up feeling the visuals were a bit of an afterthought rather than a key element from the inception of the composition, and they really didn't add anything.

The start of Se-Lien Chuang and Andreas Weixler's *Momentum Huddersfield* had me worried that the same problem would surface again. A collection of excellent musicians were on stage, married to granular synthesis, and it all created a rich sonic texture, very well realised, that made good use of the acoustics of the venue. And against this, a screen where simple pixel interactions led to moiré line interactions, and on to increasing intensity and complexity. However, here the visual realisations felt more in sympathy with the live music, and did appear to be manipulated and

crafted *in situ* as the music progressed, particularly in a quieter, breathier passage which was perfectly captured visually with a blue fractal image. The end came as a slightly abrupt but very effective full stop, and left me wanting a bit more, which is always a good sign.

From the concert notes, I really wasn't sure if *Oli's Dream* by Jaroslaw Kapuściński would achieve its aim of synaesthesia. In the execution, I don't think it quite managed it, but it was, for me, the highlight of the concert anyway. This collaboration with the poetry of Camille Norton made use of keyboard sounds, both piano and typing, allied to visual manipulation of text on screen. Judicious use of recorded sounds, such as the sound of drips or a baby crying, added to the interplay between audio and visual. The overall effect was impressive, and made excellent use of the juxtaposition of the written word and its sonic—or occasionally silent—accompaniment.

The final audiovisual work on offer was Mike Solomon's *Norman (age 1)*, which offered up a view of a multimedia score being read and performed live by Heather Roche on the clarinet. This idea was a nice conceit, particularly as each movement shown grew progressively more intricate and often slightly more confusing. The second movement of the three had a slight problem with dynamics, where the clarinet was directed to be so quiet that the sounds did not reach to the back of the audience. I appreciated the idea behind the work and thought it came across well, although I think it would be hard to create another similar piece, as the surprise and affectionate use of the score would be hard to replicate again.

Unfortunately, I will miss the final day, which looks to have an equally enticing line-up of audiovisual work. Despite the occasional criticism in my reviews, I have really enjoyed the audiovisual work shown at ICMC 2011, and believe it shows a vital, flourishing avenue of creativity. This was my first ICMC, but from conversations from veteran conference attendees, I gather that there has been a great increase in audiovisual work shown at the conference over the last ten years. Long may this increase continue!

Concert 12
Friday, 5th August 2011, 12:30/2:00pm
Phipps Hall
by Diego Garro

Hosted in Phipps Hall in the imposing Creative Arts Building at Huddersfield University, Concert 12 was the last of the series of ICMC 2011 lunchtime events and, regrettably, failed to excite as much

as the previous, thoroughly outstanding concerts. The medium-size venue, not more than functional in its architectural feel, boasted a state-of-the-art audio/video projection system capable of delivering pristinely accurate sonic detail. On occasion the power conveyed by the multi-channel system was excessive, a painful reminder that unlimited possibilities in the manipulation of amplitudes, frequencies and spectral densities can hurt an audience of audiophiles as much as it can transfix it.

The acousmatic works by Manuella Blackburn and Felipe Otondo were authentic sonic treats. Blackburn's *Karita Oto*, inspired by the sonic and musical iconography of Tokyo, indulged unashamedly in phonographic tourism while crafting a joyful work of immaculate precision and compelling character. The superb quality of the microphone recordings, along with the attention given to their spatial presence, gave the myriad of dense streams an irresistibly charming, almost tactile feel: it was wood, skins and metal of a Japan suspended in time and space, tingling playfully, echoing who knows what ancient myths, roaring with all their might.

Otondo's *Ciguri* exploits yet another cliché of the acousmatic genre (bell sounds). What initially appeared not much more than an étude on inharmonic spectra became a beautifully musical extravaganza of metallic resonances and polyrhythmically criss-crossing sequences, building a surprisingly lush sonic texture out of relatively simple timbres.

Blackburn's and Otondo's works (as well as David Berezan's or Natasha Barrett's, just to mention a few of those presented in this year's conference) are a revealing testimony to the present position of the acousmatic-electroacoustic culture, its innovative propulsion perhaps ebbing away as the decades roll on, but still expressing musical gems in what we may regard as new 'classics' of the genre.

The audio-visual features in this concert were frankly disappointing, especially in view of the lofty standards set not only by the aforementioned acousmatic works but, more importantly, by the generally very high quality of all works presented throughout ICMC 2011, including much better accomplished audiovisual compositions and performances programmed during the other lunchtime concerts, evening shows and day-long listening marathons.

Mark Pilkington's *Cameradown* utilised a technically effective, thoroughly detailed, and often extremely frantic audio and video montage. But these commendable qualities failed to disguise a sonically crude language and a visual

design deprived of the morphological richness one would expect in a modern, technologically aided presentation.

Todor Todoroff and Laura Guerra's *Beyond the Divide* was a work originally created as an intermedia presentation of electroacoustic sounds + dance, and one wonders whether it should have remained so. The version presented here (sounds + video track) featured high-resolution, strongly contrasted imagery that contemplatively explored some plastic, textural qualities of the actresses' bodies and gestural motions, but quickly entangled itself into an over-conceptualised montage. The sonic and musical qualities of the soundtrack are side-lined, as the viewer's attention is captured by the cold physicality of the women on the screen, their roles and their stories, whose meanings are all impossible to make sense of.

The version of Maurice Wright's *Darwiniana* presented at the ICMC is a reduction for electroacoustic sounds and video track of a work originally written for ensemble, tape and visuals. Without the live musicians performing the score, the work loses its most engaging dramatic element, exposing the unrefined nature of its sounds and imagery, a fragmentary construction and an unmistakably passé character of both sonic and visual design.

Edgar Barroso's *Binary Opposition*, the audiovisual work that closed the programme, showed a good degree of sonic cohesion albeit articulated through countless instances of broadband noises continuously fighting each other for spectral space within the mix. The video track, with its focus on saturated colours, provided a somewhat convincing counterpart for the unfocussed materials in the soundtrack, a sort of audio-visual spectral dissonance. The great variety of visual archetypes failed to assemble into a cohesive whole and the piece generally lacked as much definition in the audio as it lacked purpose in the video.

Diego Garro is a composer of electroacoustic music and video. He holds a lectureship at Keele University (UK) where he teaches Composition, Music Technology and Video Art.
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