A VIEW ON IMPROVISATION FROM THE KITCHEN SINK

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ABSTRACT

Dafna Naphtali and Hans Tammen elaborate on their individual approaches to improvising, music and technology, and how this has been influenced by their history as musicians. They describe the evolution of their software programming for Dafna's interactive processed sound/noise system, and Hans' hybrid instrument, the Endangered Guitar.

INTRO

We --- Dafna Naphtali and Hans Tammen --- have collaborated on many music projects over the past 10 years. Over coffee, between raising a family and sets on a gig, and on many other occasions, we have often talked about our changing individual visions and aesthetics when it comes to improvisation and the use of electro-acoustics. Our individual histories as musicians and with technology have informed our choices and trajectories, which have sometimes taken parallel paths and sometimes decidedly divergent ones.

   We thought it would be interesting after years of performing together to collaborate on writing an article about how our individual approaches to improvising, music and technology have been influenced by these histories and experience as musicians --- a look at the evolution of our methods and ideas about Electro-acoustic improvisation.

   For each of us, the musical thinking, approaches to improvisation and technical realizations have progressively influenced one another (mobius-strip-like), and have also been influenced by advances in technology in general.

   We have each (over many years) created software environments for ourselves that were designed to facilitate free improvisation as well as the creation of set pieces. Hans is interested primarily in prepared processed guitar sounds and Dafna has been interested in live-processing of acoustic musicians performing with her and processing her own voice.

ORIGINS

Hans: My long term project has been the Endangered Guitar [1] --- a hybrid between a guitar and a computer. Sounds are constantly recorded, and the information from the analysis of these sounds and my playing determines a wide variety of processes. Ten years ago this hybrid instrument emerged out of a long history of improvised practices in various styles of music, and is meanwhile tested and further developed in hundreds of concerts all over the world, from solo to large ensemble settings.

   Playing guitar since 1972, I became influenced in the 1990s by the British Improvisers style, an improvisational style that uses quick reaction, transparency of the sounds, and fast shifts in musical expression. My earliest influence was the Music Improvisation Company [2], an ensemble that included Derek Bailey, Evan Parker and others, but also Hugh Davies on electronics. Early experiments I made using guitar pedals, they proved not to be flexible enough to be used in this context. Since I was more interested in sonic explorations than playing "licks", I quickly discovered that working with various gadgets, sticks, stones, metals and other devices (best exemplified by Fred Frith) provided me with a much more flexible setup for this kind of music.

Dafna: In contrast to Hans, when I began performing with live processed sound around 1994, I was a relative newcomer to experimental music and improvised music. [3] I had already worked and performed for many years in an eclectic array of projects that included jazz, gospel, rock, folk and small vocal group motets & madrigals. I played electric guitar, mandolin, and sang in gigs and tours for many years, completed a degree in jazz voice, and studied classical vocal technique.

   Then, in the early 90's, I became interested in (free) improvisation, computer interactivity and live (electro-acoustic) sound processing all at the same time. While a grad student at NYU, studying with Robert Rowe, I listened and was exposed to a lot of "academic" computer and tape music. I worked on an ISPW and early versions of Max. I met and heard some of Robert Rowe's colleagues (among

them Corte Lippe and George Lewis) and was thoroughly inspired by their work with live computer processing and interactivity. I was asked to sing as soloist on contemporary classical works, and outside of school I was starting to play and listen to free improvised music on the downtown scene in New York. All of this activity eventually crystallized, leading into a completely new and technical direction in my music and performing.

I wanted to apply aspects of live interactive Electro-acoustic music to music I was making outside the University, and in particular to the free improvisation in which I was just starting to dabble. There was no inexpensive or portable live sound processing on a computer, so I opted to use a MIDI programmable Eventide effects processor and lugged a Mac SE to all my gigs in downtown bars (until laptops became affordable). It was an expensive, tiring but fun venture.

Initially I was only interested in live processed sound, and I made a big show of the fact that I did not use any pre-recorded audio (nothing up my sleeve..). The only sounds I used were those I could make by (significantly) altering the sound of the other musicians with whom I was playing (and my singing voice). I had programmed every single parameter on my Eventide H3000 to be controllable at the same time, and as it was unwieldy in performance I eventually grouped these parameters into my own presets on which I could "play" as if it were an instrument and notes. I tried sequencing them, but mostly would play the presets live. Using what I knew of acoustics, I trained my ears and selected extreme changes in parameters fitting the particular sound I was processing, that would give me the most noise and/or acoustic payoff and energy. This system fit my evolving music aesthetic and became my ersatz electric guitar.

This was all a lot of fun for me, but not so understandable to my audiences, who often did not realize what I was doing when I was not singing. I tried working in duos and trios to make what I was doing more understandable. Visits to the Netherlands in 1998 showed me that at least there were like-minded musicians outside of New York. However it was the dynamics of new improvising ensembles in which I was working in New York that eventually made me change my thinking about how I was working, as much as new technology that became available. I gradually became more independent in my Electro-acoustic choices and improvisations even as I process other people's sound.

COMPUTER
Hans: Heading toward the year 2000, my technical setup became more and more complex: I used guitars with multiple string boards, electric and piezo pickups, and routing these signals through various devices and mixers, to create multiple independent voices on stereo sound systems. This approach is best exemplified in my 1998 solo CD "Endangered Guitar" [4]. Once DSP-capable laptops emerged, I shifted my system to the computer around the year 2000.

To make this shift, I set out to achieve several goals. First, my computer-based instrument would need to preserve the enormous variety of sounds I created in performance from the mechanically manipulated (and sometimes modified) electric guitars with which I was used to working. I decided that real-time live sound processing would have to be the basis of this system. Secondly, the playing skills I developed (in nearly 40 years of continuous performing as a guitarist) could not be discarded, especially in light of the continuing deficiencies of the available interfaces for musical performance with computers. I decided that the guitar should not only be the origin of the sound, but would also be used as the main controller for the software that was processing that sound. Lastly, the software that I would create would be as modular as possible, so that any changes could be made quickly, without much rearrangement or redesign of GUI elements when new needs would arise.

Dafna: I never had to make this shift to working with a computer. I've been working on the same computer-based project for many years, with slow but continuous revision and addition of new ideas. Once MSP became available in 1997, I thought I would make a shift to using my laptop for sound processing exclusively, but I am very fond of the sound of Eventide and still rarely work only with a laptop.

Since 1995, I have worked in artist-in-residence programs (Harvestworks and Engine 27) and have worked with many artists as they made the transition to working with computers and interactive technologies. I have also been teaching undergraduates and graduate students at various universities.

Through these experiences, I have always felt that musicians who come to working with live processing later as Hans did, come with more clear ideas about what they wanted to accomplish when it comes to designing and writing their software, and are at a particular advantage in this respect. My university students sometimes get very good at programming, but are often still developing what they want to do musically. My own project was not thouroughly planned out,because like these students, I was developing my aesthetics as I went along.

However, a distinct advantage that I have had is that I never tried to re-create something that had worked for me without a computer. I just look for interesting musical ideas to work on that are only possible using a computer and my audio processing set-up. I suspect we will see this issue come up

less and less as younger artists come up who have always used computers in their work and who never had to make this sort of transition.

I am slower to change my software than Hans, but I believe this reflects two different approaches to creativity with and without technology. Hans has changed instruments and technologies in the years we have known each other, and I still have the same instruments and make the most out of them, even in performance. I tend to work with one sound for a long time, getting the most out of it that I can, and digging as deep as I can for something surprising in the sound.

NEW MUSIC INFLUENCES
Hans: Living in a place like New York, (where I moved from Germany in the year 2000), brings me inspiration on a daily basis, and the move fueled changes in my music, prompting changes in the software I was writing. The British Improviser's style is more prevalent in Europe, so the move to New York diminished this influence. The migration to a computer system also made me more aware of Electro-acoustic music practices, and my focus shifted from quick-reaction style to more nuanced sound explorations, combined with longer musical developments. Although I was no longer interacting with my European collaborators on a daily basis, the emerging ultra minimalist European/ Japanese reductionist style had some influence on me as well, by inspiring me to explore very low volumes. I was becoming fond of extreme dynamic changes, facilitated by my volume pedal, which then became an instrument by itself.

Dafna: I started out by playing in large groups of free improvisers, in which there was rarely a break in the playing, and changes in texture emerged slowly, and I was looping a lot of sounds I created by processing saxophone, flute, my voice, bass, etc. These improvisations influenced what kind of programming I developed. For example, playing with a drummer, I wanted to have my delay times be poly-rhythmically related to what he was playing. I wanted to perform this action, not have the computer do it for me, so I made simple tap-tempo routines, so I could link up my complex rhythm patterns to his in whatever musical relationship or subdivision I might want at the moment.

Other projects stretched me musically and caused me to develop and strengthen some ideas, most notably "What is is Like to be a Bat?", in collaboration with Kitty Brazelton. We combined both of our electro-acoustic computer music practices (her tape pieces with my interactive processing), in the context of composed contemporary classical music for a "digital punk" trio, (with drummer Danny Tunick). Electro-acoustic improvisations were created as "tectonic plates of sound" and were a core element to the pieces and interwoven as motifs in the composed sections as well. This project was (is) a wild ride that continues to stretch me and my programming in a new directions, as it requires all of my processes to be more dependable and able to be recreated at will in a large scale composition (and with my hands on a guitar and mind on the music).

Hans: My migration to computer coincided with a change in my rhythmic approach as well. This may have been triggered by listening to DJ practices and (computer-based) electronic dance music. Up until 2000 I followed the "pulse" concept: time is not a constant, but freely interpreted, with players orienting themselves around an imagined pulse or timeline. Free Jazz and British Improvisers are a good example for this style. Coltrane is a name that is often associated with this approach in Jazz. With increased interest in regular beats, I became fond again of Miles Davis Bitches Brew period and Motown, music I had listened to in the 70's. I started programming my software in a way that it takes snippets of my playing to create rhythmic elements.

Dafna: Many of the changes I made over the years to my programming were also about creating more control over rhythmic aspects and but also small automations, that would allow me to be more independent as an improviser. When I played solo for the first time I realized I needed some sound processing elements to continue on their own once I create them, and that they should change slowly over time to be less predictable.

Pianist Borah Bergman told me back in 1996 about an interesting way to practice polyrhythms, and I went home and fooled around with it, and eventually wrote a Max patch to help me practice. I eventually started using this polyrhythmic metronome to control all sorts of things in my live audio processing to create all kinds of textures, and when I started using samples in my work, (once MSP was available) I used this to trigger audio files, and later all kinds of sound processes.

SURPRISE AS A CORE ELEMENT OF IMPROVISATION
Hans: My approach to improvisation changed as well, until 2000 I used something that I called the "Toolbox-Approach". You have your musical tools, and you just take one tool after the other out of

the box as you wish. This is in line with the old Western controversy improvisation vs. composition, where improvisers still needed to distinguish themselves from traditional composing or "idiomatic" improvisers [5]. However, at some point I felt that I was merely rearranging the same "tools" over and over again, and that there should be more to improvisation than that.

I noticed that my improvisations became best when something surprising happened, from failing routines to unexpected room acoustics. Surprising myself became a major element, and creating something new and unexpected would ensure a good improvisation [6] . I programmed more and more "fuzzy" or random elements into the way my software responded to my playing. This was easy because my Max/MSP patch is programmed in a very modular way, consisting of around 160 bpatchers, abstractions and poly~ objects, able to facilitate changes rapidly. As soon as a new routine is written and a "function_name" assigned, all necessary elements appear immediately in all GUI elements, e.g. the keyboard layout. At the same time the new routine's parameters can be determined by all external and internal controllers (from pitch or velocity mapping, to controlled random or "fuzzy" functions). The amount of "independence" varies according to the context, in ensemble performances I do allow less of it. Over the years and in solo shows however, the computer became more and more independent in its responses to my playing.

Dafna: I agree that surprise is the mother of invention.. During a recording (of a trio improvisation) around 1996, the other two musicians suddenly stopped playing because they enjoyed my playing and wanted to let me play solo. Oddly, this had not happened to me before, because the previous ensembles with whom I had been playing were more from the "ecstatic school of never stop.."   I was suddenly faced (tape rolling) with the dilemma of no sound source, and so I improvised -- and for the first time used room tone, feedback, and feeding back my live audio processor into itself to create a sound source for my solo.

The point being, that the music created a need for a change in my use of the technology, and sometimes this change has to happen so quickly, that a new method is discovered on the fly. Other times, I have found that experiments with some interesting small technical point about the music or programming or audio processing leads to fertile ideas for the music I will play. I have experimented using Wii controllers, and got interested in semaphore language, and experiments with using Morse Code to trigger processing and samples have led to a fertile area of musical exploration.

CONCERTS AS SITE-SPECIFIC PERFORMANCES
Hans: The use of electronics, with its wide sonic range, also prompted me to be more aware of the acoustic environments in which my performances take place. I do not use guitar amps, but always play with the sound system that is available at the venue, without adjusting the system to a certain frequency response. In solo performances the room is the main factor that in deciding what I play --- in fact, every one of my performances can be seen as a site-specific one.

When I was playing only with mechanical devices and pedals mine was merely an "extended" guitar. The instrument I started designing in 2000 is more of a "hybrid" instrument. The majority of my musical practices and world of sounds, and the major component of my approach, live sound processing, are dependent upon software that I have written, and a computer-based approach.

Without the guitar, my software is useless. I have practiced constantly for 10 years with this instrument to make it work for me. I know it so well, that playing either guitar or computer would not make any sense for me.

Dafna: I love working with feedback and room acoustics too. Pianist Kathleen Supové invited me to perform with her what was billed as a "remix" of John Adams' Phrygian Gates 11 times a the same theater. Every evening was different depending on the temperature and humidity, how many people showed up, all kinds of things. Performing with live sound processing is like trying to set a fire on stage every night with a few sticks and one or two matches, so even fully composed pieces have elements of improvisation.

More recently I started using simple analysis of audio signals to control some audio processing parameters and playback of samples. I wanted some changes, but only when I was making sound (registering some kind of activity). Interestingly, in testing this out, I became annoyed by the constant changes and changed it so that it parameters would be randomized only when I was not doing something. So, I have another shift, as I have now moved to wanting my computer to surprise me, but only when I choose to be surprised, something that I cannot control in another improviser. Until now, I have always use my computer as a sophisticated instrument, but rarely relegated any musical decisions to the computer, since I want to make those decisions.

THE NEXT YEARS
Hans: My goal of the next few years will be to make the computer respond more musically, thus making it more like a duo partner. In its current state the computer as part of my hybrid instrument has some randomness programmed in it, but that part is not fully satisfactory. The danger is that the improvisations can become episodic --- I try out a few things, and then settle on a longer development, then try a few ideas again until I find something interesting, and so forth. To avoid this, the computer has to be programmed to allow a much larger musical response to my guitar input. This will be a shift from a hybrid instrument to an improvising music machine.

Dafna: I am moving toward programming larger scale pieces (a new one for the vocal ensemble Magic Names, in part as a response to Stockhausen's Stimmung, I will do more more with multi-channel sound pieces, and improvising alone, which requires more automated processes, and some automation for the larger structures. I am adding and trying out different kinds of controllers that may bring in new ideas about what I can do in performance, but this is secondary.

   In general I see that my direction and the addition of new technical elements into my electro-acoustic improvisation projects are always dictated by the music at hand, and the most exciting part for me is to find motivic elements and beauty in the sound processes themselves, and like the spectral composers, to have every element of the process be important and intertwined, and that computer as the instrument be inspiring, and facilitating many things including long developments and large scale structures.

Author Bios
Dafna Naphtali is a sound-artist/improviser/composer/singer/guitarist/electronic-musician. An active and eclectic performer since a teenager, since the mid-90's has been performing and composing using her custom Max/MSP programming for sound processing of voice and other instruments. She co-leads the digital chamber punk ensemble, What is it Like to be a Bat with Kitty Brazelton (http://www.whatbat.org) and has collaborated / performed with many experimental musicians and video artists, such as Lukas Ligeti, David First, Chuck Bettis, Joshua Fried, Ras Moshe, Alexander Waterman, Kathleen Supové and Hans Tammen, Benton-C Bainbridge and Angie Eng among others, and is a member of Magic Names vocal ensemble championing the vocal work of Stockhausen.

   She's received numerous commissions and awards, from NY Foundation for the Arts, NY State Council on the Arts, Meet the Composer, Experimental TV Center, American Composers Forum (for pianist Kathleen Supové, and a 2010 commission for Magic Names vocal ensemble), Brecht Forum, and residencies at STEIM (Holland), Music OMI and iEAR at Rensselaer Polytechnical Institute. http://www.dafna.info

Hans Tammen creates music that has been described as an alien world of bizarre textures and a journey through the land of unending sonic operations. He produces rapid-fire juxtapositions of radically contrastive and fascinating sounds, with micropolyphonic timbres and textures, aggressive sonic eruptions, but also quiet pulses and barely audible noises - through means of his ENDANGERED GUITAR and interactive software programming, by working with the room itself, and, as a critic observed, with his "...fingers stuck in a high voltage outlet". Signal To Noise called his works "...a killer tour de force of post-everything guitar damage", All Music Guide recommended him: "...clearly one of the best experimental guitarists to come forward during the 1990s."

   His numerous projects include site-specific performances and collaborative efforts with dance, light, video, and theatre, utilizing technology from planetarium projectors to guitar robots and disklavier pianos. He received a Fellowship from the New York Foundation of the Arts (NYFA) in the category Digital/Electronic Arts in 2009 for the Endangered Guitar, and commissions and awards from New York State Council On The Arts (NYSCA), American Composer's Forum / Jerome Foundation, and Foundation For Contemporary Arts. http://www.tammen.org

References
1. Examples of Endangered Guitar performances can be seen here: http://www.youtube.com/hansteg

2. LP: Music Improvisation Company, ECM Records 1970

3. Example: http://www.dafna.info

4. CD: Hans Tammen: Endangered Guitar, NurNichtNur 1998

5. Derek Bailey, *Improvisation - Its Nature And Practice In Music* (London, UK: Spectrum, 1980)

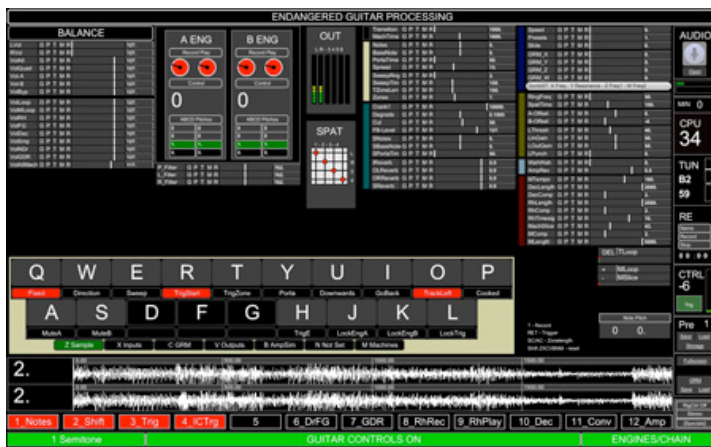6.Bruce Ellis Benson, *The Improvisation Of Musical Dialogue* (Cambridge University Press, 2003).

Dafna Naphtali with Eventide processor

Hans Tammen Endangered Guitar Setup

Hans Tammen Endangered Guitar Screen Shot