

INCORPORATION OF THE BODY INTO MY CREATIVE PROCESS, CONTENT, AND DESIGN OF THE CONCERT EXPERIENCE

BY DANIEL DEHAAN

My body is no longer confined by flesh. I exist in many locations, in forms and in formlessness. I receive and transmit through many avenues of data exchange. I am decentralized. I am simultaneous, instantaneous, ever present and always already disappearing. I have achieved immortality. I am objects only graspable through the objectification of intangibilities. My appendages are in a constant state of transformation, but even my outstretched hand cannot find you. Only through the vibrations echoing out from the cavities of my interiors can I reach you, pass through you, and mutually we acknowledge – through obscene violence – the existence of one another.

- Daniel Dehaan, personal journal entry, April 2014

INTRODUCTION

While making the transition from being a performer to a composer, a distance grew between my body and the music I was creating. The creative tools I was given to compose (i.e. pencil, paper, and rulers) did not allow for the same physical connections that I was privileged to have as a performer. I became momentarily freed from my body. The distance was at first beneficial because it enabled me to explore physically foreign gestures, textures, and compositional ideas, but later, while listening to the performances of my

works, I found myself frustrated by the absence of my body from all aspects of my creative process from conception to consumption.

Around this same time I sensed a similar discontent developing as I began to navigate the new social environments that technology enabled me to inhabit. Combining these two transitional periods, I experienced a near total decentralization, or a devaluation of my body. My body became more of an encumbrance than a pleasure. I no longer needed my body to make, or experience my works. This frustration became a growing hunger. My body was starved and I anticipated that I was not alone in this unfulfilled appetite.

What follows is a look at several of my recent works through the lens of this desire. I will strive to expose to the reader how the body has become a central concern in my creative process, content development, and a major focus in crafting the audience's experience of my concerts. This process has been one guided by my own individual desire to understand, respond to, and to satiate these corporeal wants. My work has not yet achieved a total solution, but each attempt has brought me closer to realizing what the ideal concert should be.

BEGINNINGS

Music for me has always been tied to the body. When I wrote my first string quartet while an undergraduate student at Columbia College Chicago, I struggled to manifest into music the physical sensations I was experiencing. I would compare these sensations to those caused by anxiety, phantom limbs, dreams of running in slow motion, etc. I can only best describe the specific sensations I was attempting to realize in this string quartet metaphorically as an illogical and overpowering instinct that would drive an animal to flee an unknown source of fear with such ferocity that the animal would not even stop at the loss of flesh and limbs but would continue to drag itself until nothing remained of its body.

In a final effort to exercise the work from whatever internal place it was trapped, I went to the art supply store and purchased a bottle of black ink and enough butcher and graph paper to cover the floor and walls of my small bedroom. I then attempted to express the music with the movements of my body—hoping to later translate the ink patterns that spread across the graph paper into music. Ultimately, a few permanent ink stains on my wood floors were the only thing I yielded from this experiment.

Shortly thereafter, I abandon my ideas and resorted to more graspable concepts to finish the assignment. This was the start of my obsession with deeply incorporating the body into my music.

All of my early attempts continually fell short of the physical sensations that compelled me to create. Although the interrelationships of the sounds I created seemed to expose glimpses of what I wanted to convey, when I presented these sounds in concert their physicality was limited to the interiors of my own body. And it seemed they did not extend in any tangible or meaningful way to the bodies of the audience members.

In these early performances I was relying upon the intellectualization of the aural spectrum alone and not exploiting other sonic potentials. The music was at best only metaphorically alluding to what I wanted to create. Thus, any physical responses that my music did elicit within the audience, first had to pass through their ears before extending to any other part of them through their own autonomous interpretation, evaluation, and dissemination.

While my compositional process did include a more directly physical connection, the musical results failed to connect in a similar way with the audience. I wanted to create experiences that made tangible connections with the audience members' bodies. I wanted to create works that consumed the audience. I wanted the physicality of the sounds to remain in unadulterated states – unruly and threatening. I wanted to put the audience's body inside of the sounds in the same way that the sounds consumed and compelled me during the creative process.

SPEAKER SYMPHONY NO. 1

It wasn't until several years later, during a residency at High Concept Laboratories (HCL)¹ with SOUND ROOM², that I would first explore creating concerts that expanded their scope towards that of sound installations as a possible means of bodily incorporation. The residency resulted in an evening-length, live electronics work specifically designed for the venue, titled "Speaker Symphony No. 1." During this residency I made several discoveries and developed key techniques that I would continue to use and build upon.

The first discovery was that I could emphasize the audience's body by creating a concert environment in which what you heard and your experience of the work was entirely dependent upon your spatial location and movement over the concert's duration. In short, I could re-centralize the body by decentralizing the concert.

Utilizing the sixteen channel speaker and control system that SOUND ROOM designed, I crafted the form and content of "Speaker Symphony No. 1" to take advantage of and encourage the audience to explore the architectural nuances of the venue.

The sounds I used had all been collected from within the space: floorboards creaking, windowpanes rattling, notes being played on the broken keys of a piano decaying in the basement, etc. The performance began by imperceptibly introducing these sounds in the same locations that I had captured them—gradually activating the space with its own sounds. Then using the samples of the unkept piano I introduced small musical fragments in discreet areas of the building.

¹ High Concept Laboratories is a Chicago arts service organization that focuses on aiding local artists in the development of new works by providing space and promotional support.

² SOUND ROOM is a collaborative group that began in 2011 between Chicago based composers/sound artists Kyle Vegter, Ryan Ingebritsen, and Daniel Dehaan. Designing custom built software in Max/MSP and complex, multi-channel speaker systems they focus on creating unique and intuitive three dimensional sound spatialization system, specifically tuned to the acoustic nuances of the spaces they inhabit. Since the start of the collaboration SOUND ROOM has gone on to work with many artist and performers to realize large scale installation concerts.

From one perspective, one fragment sounded clear and focused over the quiet sonic-melange of the other distant fragments. As the audience navigated from one area to another, their sonic perspective shifted with their movements, empowering them to interact with and discover the music in ways that a more typical concert scenario would not. Strangely, however, what ultimately became the most successful element of this concert resulted from a flaw.

To explain, the original building of HCL was a warehouse divided into three levels. We installed only subwoofers on the first level. First, because of its cold, industrial atmosphere and appearance, and second because of the dispersive nature of lower frequencies. We then distributed the remaining fourteen channels between the second and third levels arranging them to enable the most flexible use of the space.

This successful flaw occurred in the middle section of my performance when I created a low rumble in the subwoofers of the first floor. We had suspended one of the subwoofers between two chairs and as the amplitude of the signals being sent to the subwoofer increased, the chairs began to rattle and move around underneath the subwoofer. Several audience members noticed this occurring and went over to brace the chairs, attempting to prevent them from rattling. However, upon grabbing the chairs they seemed to become transfixed by the vibrations they felt. Others noticed this and took hold of the subwoofer as well, resulting in a small mass of people embracing the speaker cabinet and the vibration emitted to them. It was from this accident that I realized that I could use specific frequency spectrums to encourage different interactions with the audience's body as well as encourage them to interact physically with the concert.

The last major technique that I developed during this residency is what I call *Body Loud*—the amplification and diffusion of a sound in such a way that it is not painful or damaging to the ears but consumes the body with its vibrations in a physical manner. I have found that this provides a much more satisfying and compelling sensation of loud because it avoids volume levels that can be both dangerous and uncomfortable for the ear to

experience, while still accomplishing the variety of sublime sensations that loud sounds can elicit.

While experimenting with creating *Body Loud* environments I found a secondary and more subtle phenomenon could result after having exposed my body to these types invasive physical vibrations for long periods of time. If I suddenly cut to silence I could feel, in a very physical way, the absence phantoms, or the negatives of the vibration I had been exposed to, similar to disembarking a boat after many days at sea.

I chose to conclude the concert with this phenomenon by building from the low undulating frequencies in the subwoofers on the first floor. I gradually constructed a drone that filled the entire building and permitted those who had been embracing the speaker cabinet on the first floor to migrate to the second floor where the vibrations became the strongest. I let this drone continue long enough to entrain the audience's bodies and then I abruptly cut it off, leaving just enough sonic activity at a quiet, non-physical level, to keep the audience suspended and to allow them to enjoy the sensations of these absent vibrations.

The concert had begun as a room full of people drinking and happily lost in conversation and ended in a room full of people silently entranced by the experiences they had just had. During this residency I fell in love with the use of amplification and multichannel speaker installations. Systems such as the one we installed at HCL enabled me to have complete control over the architectural space, as well as the power to invaded the corporeal audience, and yet, there was something missing.

"Speaker Symphony No. 1," did not rely upon the HCL building in any meaningful way. I could simply take my sounds and perform them in any other location with a similar speaker system and the piece would not suffer any loss. The work only justified its specific location through the simple fact that the speaker system was here, rather than anywhere else. Furthermore, while the concert had engaged with the audience's bodies and democratized the temporal development of sounds dependent upon the audience's choice

of location and movement, the performer's body remained absent, not utilized, and not incorporated.

OBJECT IN ABSENCE

Later that summer, while at the Bang On A Can Summer Music Institute hosted by the Massachusetts Museum of Contemporary Art (Mass MOCA), I performed a second experiment in site specific concert music. This time rather than installing speakers throughout a building, I installed a chamber orchestra, and this time the music was to be inseparable and entirely dependent upon the space in as many ways as possible.

My favorite thing about composing for large ensembles has always been the absent weight caused by the full ensemble playing as quietly as possible. The discrepancy between the amount of sound and the number of performers creating it has always focused my attention on what is missing rather than what is present. I found a similar feeling of absent weight in the abandon buildings that comprise the Rust Belt of America³. These massive structures: imposing, monolithic, and encompassing, stand austere with complete and consuming silence.

While composing "Object in Absence" (written for an abandoned industrial building, chamber orchestra, and five percussionist) I meditated upon photographs that had been taken of these Rust Belt locations. Originally my intention was to use these buildings only as an inspirational metaphor to guide my compositional processes (building up large sonic structures and then stripping them almost completely barren and empty, allowing them to maintain only their major structural components and occasionally leaving behind a few pieces of refuse), but upon arriving at Mass MOCA I discovered that its grounds and facilities had a long and rich history of industrial activity.

³ The Rust Belt is the collections of buildings that once served as the industrial hub of America. Located in the Great Lakes region most of these buildings still stand but are mostly abandoned, being left uncared for and decaying as nature gradually retakes them.

Beginning in the late 1700's, just prior to the Revolutionary War, the site was used to produce a wide range of products that were relied heavily upon during each of America's military involvement: shoes, bricks, lumber, large machinery, marble, and iron.

The Sprague Electrical Company, the site's last tenant, vacated the property in 1985 due to an inability to compete with cheaper production costs abroad. Like most communities centered around large industrial plants, the discontinuation of operations sent the city of North Adams into an economical tail spin. However, in 1999, after extensive renovations, the site reopened as Mass MOCA, a museum dedicated to showcasing and supporting the development of large scale installation art, marking the start of economic recovery through tourism and jobs.

During the first afternoon of the three-week long Bang On A Can Summer Music Festival, the staff of Mass MOCA led us on a guided tour of the grounds and buildings. The final stop was at the old boiler plant that powered the original facilities. Upon taking over the site, the architects designing the new museum decided that to honor and call attention to the long history of site, they would leave the boiler plant untouched and unprotected from the elements that had already begun to erode the iron pipes and tanks. For museum visitors to safely view and explore the decaying structure they constructed a system of stairs and platforms in and around the pipes.

Mass MOCA was a prime example of the Rust Belt locations I had envisioned during the process of composing "Object in Absence." The boiler plant, with its multilevel observation gangways, struck me as being the perfect place to experiment with how I could accomplish a similar experience to that which I had created at HCL but with live performers and meanings only deliverable by this specific location.

In order to further incorporate the music into the building itself, without altering the score in anyway⁴, I invited an additional four percussionists to join the orchestra and then strategically positioned the orchestra throughout the structure.

The notated portion of the score already included a single percussionist that I used to mimic the sounds of debris fluttering about in the vacant sonic structures created by the orchestra. I asked the additional four percussionists to improvise what I called *activations* of the boiler plant by using sounds they discovered through guided investigations of the building. The purpose of these activations were to make the building sonically present. I wanted the audience to walk in and become immediately aware, just above the subconscious level, of the edifice that now loomed about them.

As the piece progressed the percussionists were then instructed to do two things: First, they were to become increasingly responsive to the music, as wind chimes are to the changing breeze, and second, I wanted their curiosity and explorations of the building to provide permission and encouragement for the audience to do the same.

The result was a completely three dimensional concert where there was no division created by a stage or venue, even the sounds of the nearby highway contributed to the experience. For me, this provide for a profound sense of time and place. Both strongly looking back, hearing the history as a percussionist quietly scrapped along a rusted pipe in counterpoint to a subsiding melodic highpoint from the orchestra, and feeling present as the balance of a long sustained chord shifted with my movement away from one performer and closer to another.

In "Object in Absence" I found a way to create a concert that needed the location it was presented in. If this piece were to be performed in a concert hall it would most likely be dull and boring to an audience and leave one with a sense of incompleteness. It would

⁴ I did not want to change the score both because I did not feel like it was necessary and also because it was part of the agreement I had reached with the producers of the festival in order to be able to present my work in the boiler plant. Originally my work was supposed to be performed on a stage in concert with works by all of the other composer in residence.

certainly not be the same piece and whatever meaning it might convey would rely heavily upon program notes to contextualize the composition in another space or to expose my compositional processes.

The building itself was also an important instrument in the orchestral textures. Contributing both its unique impulse response, allowing the sounds of the concert to resonate through it, as well as its body as an instrument to be played by the four percussionists.

“Object in Absence” did lean upon the physical presence of the performers, but only to provide permission for the audience to also be physically present and spatially curious. The members of the orchestra, by my own shortfalls of design and direction, were hardly more than sound makers. Their bodies and presence did not carry any intentional meaning intrinsic to the piece itself. Perhaps the collective body, the orchestra, could have been read as the next quasi-industrial-production-complex to be abandoned, a relic of the soon to be musical past, but this would have required the audience to make several conceptual leaps.

TROMPE L’CORPS

Inspired by the success I had found in these two experiments at HCL and Mass MOCA, and determined to fully incorporate the presence of the performers, I proposed to meld all of these ideas together in a new work titled “Trompe l’Corps” which was commissioned and premiered by the International Contemporary Ensemble (ICE) as part of ICElab 2013.

The title of the work is derived from the phrase *trompe l’oeil*, which refers to a painting style in which the objects, or subjects are depicted so realistically that the viewer is deceived into believing them to be real. Literally translated the phrase means to deceive the eye. I altered the phrase, replacing *l’oeil* (the eye) with *l’corps* (the body), to accurately describe my creative intentions.

For "Tompe l'Corps," unlike the previous two works, I returned to a nearly traditional concert format. In collaboration with the ICE production team we devised a circular-multilevel-arrangement of the audience, performers, speakers, and lighting effects that would allow us to manipulate the audience's sense of space without requiring any actual movement of the audience during the performance.

From even before the doors opened for the concert, I wanted it to be a visceral experience. The concert began with high amplitude frequencies just below the range of the human ear pulsating through two subwoofers positioned at opposite ends of the room. The effect was extremely discomforting. As the audience entered to take their seats, even though they could not hear anything, the sensations they received from their bodies informed them that the performance had already begun.

Gradually the frequencies produced by each subwoofer began to waver ever so slightly creating complex beating patterns that could only be felt in the chests or stomachs of the audience and only heard in the sympathetic groans and rattling from the building itself. As the seats filled in and the audience quieted in anticipation of what was to come next, the lighting designer slowly faded the houselights to a soft, centered glow.

The low beating patterns undulated, expanded and contracted until the audience had just nearly become comfortable with the slow turnings of their innards, at which point I suddenly bombarded the entire space with white light and a full spectrum burst of extremely saturated, but still harmonically focused sound. Just as abruptly as I filled the space with light and sound, I took it away, leaving, at the polar opposite end of the spectrum, shrill, ringing frequencies that mimicked those resulting from sudden hearing damage. While none of the audience had actually just damaged their hearing in any way, I wanted to pose it as a potential, solidifying for each of the audience members that this would be a concert in which their bodies would be exploited just as equally, if not more so, than aspects of themselves that they might typically require during a concert experience.

Having already invaded the interiors of the audience's body, the remainder of the concert continued to exploit this spectrum, making sudden shifts from full, diffused, amplified sounds that reverberated throughout the concert hall, to small, removed, focused, acoustic sounds that highlighted the distance between the source and the perceiver.

In "Trompe l'Corps," I created an evening length concert which focused on the process of submerging the audience's body within the experience. In contrast, however, to previous attempts I was able to accomplish this through a form that followed a musical, or narrative arch. An evening in which the drama was derived from the sometimes perceived, sometimes actual shifts in spatial or physical relationship of the sounds to the audience's bodies.

The performer's physical presence also played an important role in conveying the meanings and intentions behind the music. The moments that most clearly demonstrated these roles were the third and final movements.

The third movement, for solo concert bass drum and live electronics, functioned formally as an extended break between the second and fourth movements. By restricting myself to using only two elements, concert bass drum and live electronics, for the duration of the movement I was able to focus the audience's attention on the dialogue that unfolded between the implied emotions of the percussionist's physical gestures and the responses, both sonically and spatially from the live electronics.

It was important that this movement was understood as a sudden interruption, or loss of the preceding music because the goal of the percussionist's actions, and therefore the entire third movement, was to bring back the second movement by attempting to fully recall the captured sonic memories of it.

To do this, the electronic processing used a variation of convolution reverb, where, rather than imprinting the impulse response of a real space upon the concert bass drum, each speaker instead used a brief and unique recorded sample of the preceding movement.

The percussionist was then able to recall different musical memories by changing the volume and spectral content of the sounds they produced.

After an initial violent cut from the second movement, the form of the solo then progressed from quiet, passive rolls and single strokes, to violent, aggressive, and desperate assaults on the concert bass drum. All the while the percussionist was emphasizing the physical efforts these actions required.

As the intensity of the performance increased the relationship between the actions of the percussionist and the electronic processing became more apparent—the samples becoming clearer, louder, marginally closer, but always distant as each stroke of the performer reverberated back into the concert hall the sonic memories of the prior movements.

Despite however much vigor the percussionist attacked the concert bass drum with in attempts to fully recall these sonic memories, the reverberations were kept to the edges of the room and only on the most barbarous of impacts were the sonic memories allowed to momentarily echo closer to the percussionist at the center of the room.

Without being able to see the physical efforts of the percussionist and connect those actions to the sympathetic sounds coming from the speakers, the audience would not have had the same physically empathic experience, or derived the same meanings from the movement. They wouldn't have felt the percussionist striving to recall those sonic memories and failing to fully do so. They wouldn't have made their own personal connections to experiences of great loss that often elicit very physical responses.

In the final movement, similar to the concert bass drum solo, I setup a drama of intense futile struggle, not just of the soprano against the live electronic processing and the spatialized percussion, but also, and more importantly, in the audience's experience in negotiating what was presented to them visually and sonically.

For the movement's entire duration, the soprano remained as the only visual presence at the center of the hall (all the other performers having already taken their places

behind gongs positioned in the shadows of the upper balcony). This highlighted the traditional use of vocalists to deliver concrete meanings through the text they sing or speak in musical performances, and how their body language plays an important role in interpreting deeper meanings behind the text.

The movement gained momentum as the soprano hunched over and quietly muttered. The audience could see that her mouth was moving but the sounds she made were unintelligible and masked by sounds of percussion swirling around the hall. In combat with the growing roar produced by the surrounding gongs, the soprano enunciated and projected her words with greater and greater ferocity but was never quite heard over the chaos. Her words were only heard as a mass of fractured syllables that rapidly fired from speaker to speaker and eventually spun into the mounting cacophony created by the electronic processing.

After a long swelling fight that culminated into a threatening wall of vibrations, the soprano finally managed to be heard as she screamed, "an unbearable incandescence!" The wave of noise then crashed and all the performers switched to playing short, shimmering rolls on small triangles and whispered, "fortunately" over and over again, getting quieter with each repetition.

The success of this moment hinged upon the physical and visual presence of the soprano. Without being able to see her struggle to be heard the audience would not have endeavored to understand her. They would not have looked to her body for emotional guidance. Instead they would have likely just accepted her voice as a minor timbre in the overall texture.

These are just two moments within the concert that show how I used the performers physical presence to manipulate and control the deliverance of meanings, intentions and drama within the music. "Trompe l'Corps" created a nearly ideal concert for me. It didn't emphasize space as "Object in Absence" had, but the performers, electronics, lighting, and the audience's bodies all contributed equally to the total experience.

Where I was still left unsatisfied was that this event was something that just simply happened to the audience. The audience was not given any control over their own experiences.

Box No. 3

My most recent work was a 5" x 7" x 4" wood box that I placed inauspiciously atop a plain pedestal in a white walled, white floored gallery at Northwestern University. On each of the box's four exterior walls were small, green LEDs that blinked in synchronization with a repeating sine tone.

Inside of the box were three small speakers and an Arduino. The Arduino was programmed to use ultra-sonic ping sensors mounted on the outside of the box to measure the distances to surrounding objects. The box monitored its environment and behaved like a puzzle that would expose its sonic secrets depending on how many viewers were present in the room and their independent distances and group relationships to the box.

Each side of the box had its own distance sensor which controlled a discreet set of sounds that would crossfade from one to the next dependent upon the distance of the viewer from that specific side. When no viewers were present in the room, the box would produce only a pinging sonar sound accompanied by recordings of wind, or filtered white noise.

When a lone viewer entered the room they would quickly discern that the box was responding to their presence by the accelerating or decelerating rate at which the sonar ping repeated in relationship to their distance from the box. Then, dependent upon which side the viewer approached from, additional sounds would gradually crossfade, mixing with the wind/white noise sounds. The viewer could then explore the room unveiling different sounds.

If a second viewer entered the room two layers of control would become active. One layer which would respond to each viewer's independent side and distance from the box, as if they were alone in the room, and a second layer that monitored for specific configurations of the two viewers in relationship to the box.

To give an example of this, if the first viewer was four feet away from side A and the second viewer was two feet away from side B, no change in the sound would occur and only the viewer's independent relationship to the box would influence which sounds were heard. If the first viewer, however, was two feet away from side A and the second viewer was five feet away from side B, then the set of sounds coming from the box would suddenly shift to a single sound for as long as the viewers remained in that specific configuration.

If then a third viewer entered the room, while the box would continue to respond to each viewer's independent relationships, a new set of *hidden* sounds, different from the set discoverable by two viewers, could be discovered if the three viewers stood in the correct combination of distances from the box. Again, if a fourth viewer entered, a new set of sounds could be unlocked.

This box was certainly an installation rather than a concert, but it enabled me to further explore the use of sensor technology to further incorporate the audience's physical presence into the creation of the concert experience.

CONCLUSION

While technology certainly plays a large roll in my practice, and proposes some interesting possibilities for bodily incorporation into the concert experience, I don't believe it is mandatory for creating an ideal concert (i.e. "Object In Absence"). Seemingly contrary to the works I have just discussed, a concert does not need to emphasize the physical body of the audience. In fact, my current investigations have been towards how a concert

experience could deemphasize the body—or be decentralized to such extremes that the only possible way to experience it would be through technologic extensions of our bodies.

The ideal concert then is simply one that justifies and acknowledges the medium through which it is delivered. A concert should exploit the unique characteristics and possibilities it has that are not found in any other modern medium of musical consumption. The same should be true for other formats that music can take. If I release music on a compact disc, or for headphones, or for speakers, or on SoundCloud, or YouTube, I should be conscious of why I have chosen this avenue of distribution and ensure that my choice of medium is intrinsic to my intentions behind the music. Essentially what I have become aware of is that I consider these choices the same way I determine or strategize instrumentation and orchestration—the music should be idiomatic to the format it takes.