

Sound, alone, can be achieved through complex thinking and methods. When rhythm and music become the goal, many paths guided by confusion will be present and welcoming for exploration. I have lost myself in the labyrinth of music composition in search of what rhythm really is and what it means to me. Through my exploration, I have started to discover these things understand by the physical facts of patters and vibration.

When I think of things that give me true joy, I am traced back to the same source: Music. I have concluded that there is a constant undertone in all that has to do with music. I am exploring what that undertone is. Through that exploration, I am hoping to gain a sense of why I feel such a magnetism towards music and rhythm. By experimentation, I am in the process of dissecting my musical passion.

Essentially, what is rhythm? My goal is to not achieve an answer, but to experience what rhythm means in many aspects. I am in the process of performing a series of experiments with different equipment and techniques to achieve different sounds and patterns.

With respect to my essential question, I began my research by touching base with many different resources. I consulted the internet and started familiarizing myself with basic musical terms such as timbre, syncopation, rhythm, melody and many more.

I began looking at artists that were able to incorporate the influence of sound and music into their work such as Walter Kintundu, Evelyn Glennie, Beardyman and Peter Richards in collaboration with George Gonzalez.

Following up much of my initial research, I was given the name Walter Kintundu. Looking through his work, I was influenced by his unique approach to the production of music. From intricate hand-made devices that produced sounds to unique devices that delivered sounds, Walter Kintundu never failed to develop his unique approach. For him, his work was not about his results, it was about his process and his approach. I came across his list of influences he dedicated his work to. That was crucial in my research because it introduced me to many more artists and groups that were and still are taking nonconformity to new heights.

Evelyn Glennie, a marimba player, is a highly inspiring individual involved in music. She has been profoundly deaf her entire life. Her art begins with the physical fact of vibration. I came across her and her story in *The Music Instinct: Science and Song* (dvd). She was an example of the physiological effects of music considering that music and sound are nothing but vibrations. “Every Object, a bone in your body, the Earth, has a natural set of frequencies at which it wants to vibrate by virtue of how it is constructed, how it’s put together. Every object has the capacity to vibrate. (narrator of the Music Instinct)” Learning of her and her work ethic helped me better understand literally how we hear and perceive sound as humans.



Figure 1: Pedal Board with Effects Processors

When I consulted YouTube, I stumbled upon Beardyman a beatboxer. His technique of using looping patterns to make his music greatly influenced my research and experiments. When I came across his work, I instantly felt the warmth of my passion, the initial drive I had to fulfill my subject matter. I looked further into his techniques and equipment and learned about the programs he exercises everyday. His use of microphones has also influenced my work greatly and can be identified in my current art project.

Walter Kintundu brought the work of Peter Richards and George Gonzalez to my attention. In collaboration, they brought the Wave Organ to the San Francisco Bay. They installed a pretty big interactive sculpture that was activated by the movement of the waves. This kind of work was very inspiring to me and my work. The two of them figured out a way to

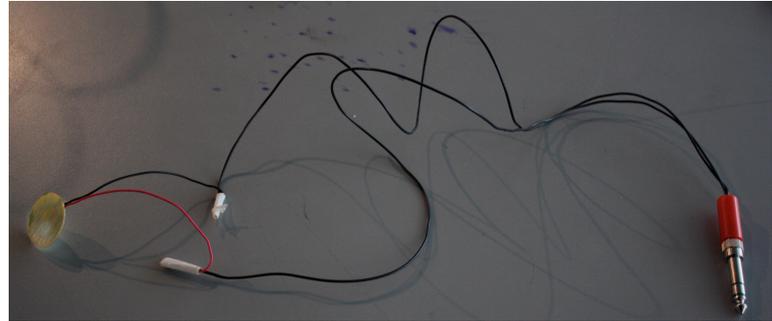


Figure 2: Piezoelectric Transducer (Contact Microphone)

directly voice the influence of natural gestures such as a wave crashing. I started thinking about ways to go about my project by considering more closely my materials and concepts at hand.

I collected many tools and devices to start experimenting with as my research continued. I started my materials testing and experiments with a few microphones (an italk plugin mic, a Sure PG57 acoustic mic, a mini acoustic clip on mic, and a Sony mini stereo mic), a digital recorder (Alesis stereo recorder), a KB/A 15 Peavy Amplifier, and a Tascam (PocketStudio 5) mini mixer board. I started collecting different sounds that occur in my regular life and I began experimenting mixing those sounds. I borrowed a mini midi keyboard (Casio) from a fellow student and began with that as an instrument I could start experimenting with as well. Once my ideas for my art project became further developed, I was introduced to six different effects processors that allowed me to create looping patterns in addition to creating unique sounds. I ended up using three of the six processors (the Digidelay, Envelope Filter GPX 25 Extreme, and Compression Sustainer) in my final experimental days. My second instrument was a contact microphone that was made for me (Piezoelectric disc soldered to a quarter inch audio jack cable). The contact mic is able to pick up any vibrations present on the surface it is attached to that can be amplified. Through out my experimentation, I collected many tools that allowed me to successfully make connections between various devices. I collected a few quarter inch to eighth inch adapters, an eighth inch to quarter inch splitter, an eighth inch to eighth inch triple splitter, a double ended eighth inch cable, and a few quarter inch double ended cables.

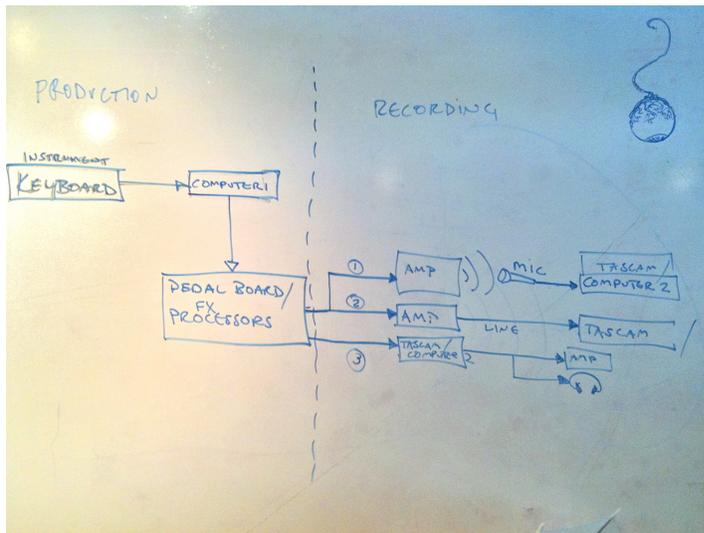


Figure 3: Simple Schematic of Connections

I had to go through many brainstorming sessions and tests to figure out the correct way to achieve looping and sound effects in cooperation with my two main instruments: the keyboard and the contact mic. I ended up trying a few different methods of connection when it came time to record. The keyboard I was using had to be directly connected to my laptop computer (computer 1) and powered by GarageBand by way of a USB cable. I connected the keyboard output to the pedal board input by way of a double-ended quarter-inch cable. From the pedal board output, I connected the desktop computer (computer 2) with another quarter-inch double-ended cable with an eighth-inch adapter allowing connection to computer 2. The same system of connections applied to my second instrument, the contact microphone.

Eventually, I simplified my experimental processes when I decided I wanted to focus only on the sounds that the contact mic was picking up. I got rid of the MIDI keyboard and I removed three of the seven effects processors leaving me with the DigiDelay, envelope filter extreme (wah) and the compression sustainer. I decided I needed an additional contact microphone for my new set

up and also an acoustic mic. I wanted a way to pick up the sounds being made by drawing on a paper. I set up a system of books that stood in place of a wooden box and fixed a paper at the center of the books. I taped the contact microphone under the paper as well as a clip-on acoustic mic. I had to tweak my system of connections to allow both the microphones to be effected through the pedals and available for recording at the end of the system of connections. I considered my laptop to be a correct receiving end for recording in possibly GarageBand. I was disappointed and my laptop would not receive any signal from the microphones. I turned to the Alesis digital recorder to be the receiving end for recording and it worked.

Seeing as this system was highly effective and highly functional, I brought my ideas to the sculpture teacher and devised a plan for how a box could be built in place of my stacks of books. The system is still currently being developed.



Figure 5: Make-shift "Sound Box Transducer"

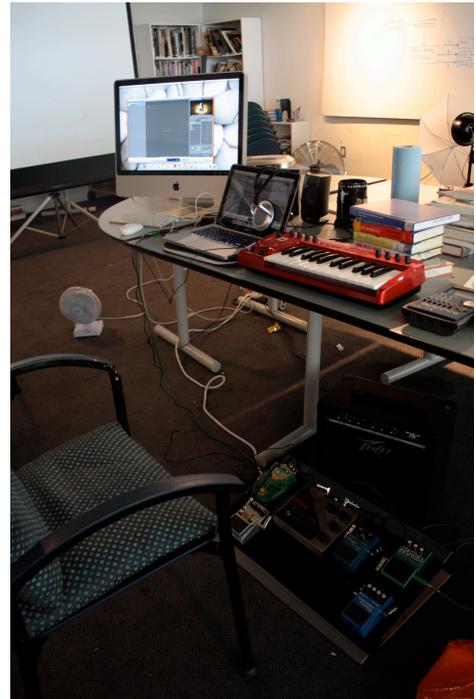


Figure 4: My "Audio Lab"

The contact or piezoelectric microphone is able to convert the language of vibrations into electrical signals that resulted in very unique sounds during experimentation. (Review attached CD for soundclips).

As I learned more about the materials and concepts I came across, I became more excited about my project. At the beginning of my materials testing, I was greatly discouraged to fulfill my original idea of translating movements made during drawing into sound and rhythmic music. I put that endeavor on pause and set out on a pursuit to discover what music means to me. I came full circle and landed at the feet of my original idea. By this time, I had gone through many other tests and experiments that led me to a better and smarter mindset on how to approach my original idea. Each time I experience my piece, I hear the music that I am producing in that moment and I am reminded of my passion for music.

In order to correctly and fully understand my research and experiments, I was forced to let go of any biases I had and let my results guide me solely. Because of this, I am able to refer not to what I did, what I learned about music and sound. My results allowed me to hear and feel the physical fact that sound is vibration and that rhythm consists of those vibrations in an orderly pattern. My art piece physically joins those ideas and expresses the ideas of vibration and rhythm through what you can hear and physically see when you experience my piece. I feel successful and still eager to learn more about these ideas I've touched base with.



**Figure 6: Recording Device connected to make-shift "Sound Box" and Pedal Board**