Adithya Rajan
adithya2

Program Notes (*Pandemic!*):

The 2020 COVID-19 pandemic has been an event of unprecedented size that has affected people all around the world. The virus, belonging to the coronavirus group of viruses, originated in Wuhan, China, and causes respiratory symptoms in the affected. The virus itself has spread in an exponential manner, with 213 countries and territories now claiming cases of the virus. Many countries have established quarantines and lockdowns in an attempt to control the spread, which has led to flattening the curve of spread. However, the number of cases continues to rise, as no vaccine or cure has been found to date.

Pandemic! is an electro-acoustic composition that intends to represent the global pandemic in a sonic medium. This piece features multiple components, with the basis of the sound being algorithmic composition. The background of the piece features several consistent tones whose properties directly represent the number of confirmed cases of COVID-19. SuperCollider was used to algorithmically represent the data of confirmed cases in various countries through sound. The countries represented are the United States, Brazil China, Italy, Iran, and India, which are represented by the notes D, E, C, A, G, F respectively. SuperCollider was used to change properties of these tones, specifically the amplitude and the duration of the grains used in granular synthesis. The durations of the grains were changed exponentially based on the number of confirmed cases, in a range between 3 s and 10 ms, according to the equation: *((3^ (1 / number_of_cases) - 1) / (3-1)) * (3-0.01) + 0.01*. The amplitude changed proportionally to the number of confirmed cases, in a range of -45dB to -3dB, according to the equation: *((number_of_cases/1158040 * 42) – 45*. The data set consists of 103 datapoints, which each represent the number of cases on a certain date between January 22nd and May 3rd, 2020. Professor Fieldsteel had assisted me in my process by sending sample code that exemplified the process of modifying tones based on a dataset. The sample code follows my original idea of playing an individual tone for each data point, but the final product instead features a sustained tone for the duration of the piece, with each datapoint modifying the properties of that tone. The tones for each country were generated individually, and then played simultaneously in Logic Pro X. A reverb effect is also applied to these tones to increase their ambiance in the soundscape.

The foreground of the composition features news clips that represent major news events over the timeline of this composition. These include some countries finding their first cases, and government responses to the pandemic. These news clips are placed in chronological order and appear in the composition relative to the date that they aired. A reverb effect is applied to each news clip to create a surreal sound for the speech of the reporters. Initially the clips play independently, but as the composition proceeds, the news clips begin to overlap, signifying the increasing presence of the virus in our daily lives. Finally, additional sound effects are added as ornamentation to provide more depth to the soundscape and theming of the composition. These effects include sounds of a clock ticking, recurring “beeps” akin to a medical monitor, and other ambient noises to provide more mass to the composition. These further contribute to the coronavirus theme of the composition with the motifs of time and medicine.

This composition has been a huge learning experience as I had never used algorithmic composition techniques or SuperCollider for any previous composition. I believe I was also able to incorporate various composition techniques learned in class in the composition, as it has elements of a text-sound composition and a sound-mass composition. The creation of *Pandemic!* has been a challenging and rewarding experience as it allowed myself to reflect on current events while also learning new methods of electro-acoustic composition.