ART SCI NEXUS

An open generator of collaborative aesthetics

"WHAT THINKING SOUNDS LIKE" is an audio-visual installation resulting from ongoing experiments with sonifying neural network data in the study of Parkinson's and Alzheimer's. This conceptual artistic approach to scientific research utilizes classical music composition methodology in order to gain new perspectives in data analysis. Ordinarily data is examined graphically, we hope that the complexity of sound diagnostics can lead to new discoveries.

The presentation will be in two modules with introductory lectures followed by live performance, classical string and digital variable ensemble, opening at Audiorama (http://www.audiorama.se - Stockholm, SE) on May 31, 2017, and thereafter at Faktor (http://faktor.hamburg - Hamburg, DE) October 6-15, 2017.

The ArtSci Nexus Team "A Well-Tempered Brain" is a collaboration between artists Anton Koch and Mark Matthes (known as Chamberlab), sound musician and applied mathematician Sergey Kostyrko, and molecular biologists Dr. Alexander Kagansky and Dr. Paul Roach. The ArtSci Nexus is an independent platform that enables curiosity within and between the humanities, arts, and sciences, introducing professionals and the public to new creative modes of thinking.

In the pursuit of expanding interdisciplinary approaches, the team has developed a process of sonification modifying "machine learning" software to algorithmically recognize, predicate, and convert metadata streams into compositional means (i.e. chord sequences, transpositions, harmony and dissonance, tonal and rhythmic variations). The data set is a collection of electrical pulse signals from cortical and striatal nerve cells of the human brain grown over a special microchip which consists of 64 electrodes that record neural activity to be studied. Further investigations dig even deeper, comparing the gene expression of deceased Alzheimer's patients against non-AD samples, which is the leading cause of dementia symptoms. Do the genes of one patient sound different than the other, in which ways and what can this tell us in terms of possible prevention, treatment, and cure?

By this method of sonification, "A group of neurons can be imagined like a group of instruments within an orchestra", explains molecular biologist Dr. Alexander Kagansky, "Music has the potential to be a goldmine for science".

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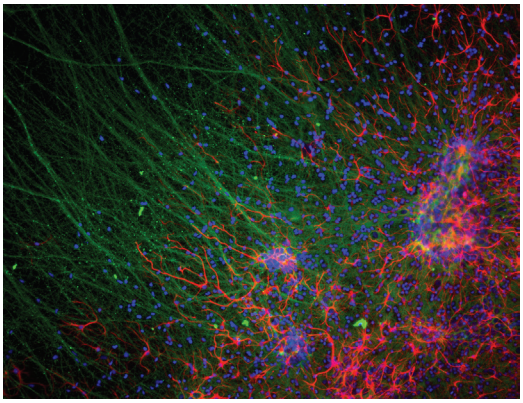

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