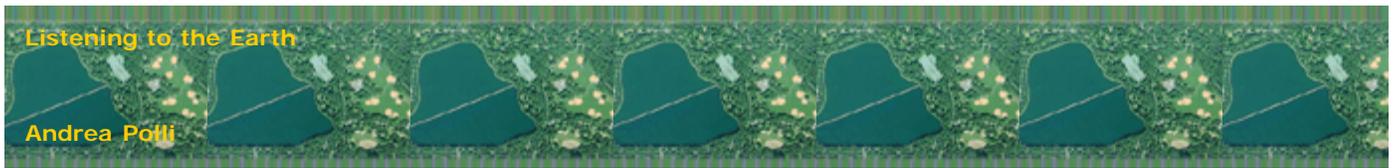




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Abstract: A presentation of two recent art projects, Heat and the Heartbeat of the City and N., in the interpretation of recorded and simulated data describing the global climate.

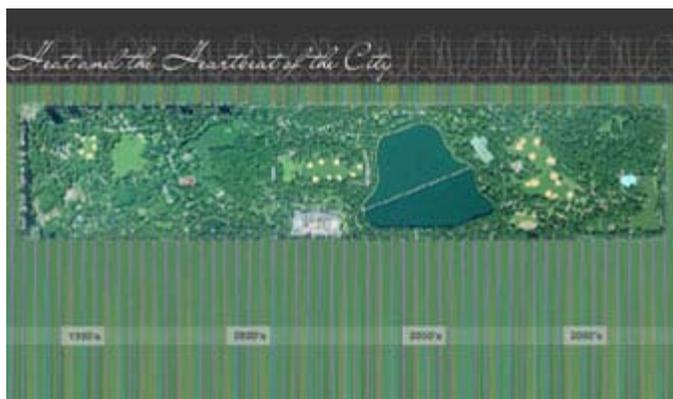
As was seen in the recent Tsunami disaster, many lives depend on the interpretation of global information. Developing a language or series of languages for communicating this mass of data must evolve, and part of that evolution must include the work of artists.

In an article called "Database Logic and Landscape Art," Brett Stolbaum defines one of the most important roles of a database artist to be the projection of meaning onto meaningless data streams. Stolbaum challenges artists not to be "bound to work through semantic models in a way dictated by the purposes for which the data is collected."

The interpretation and presentation of data using sound is part of a growing movement in what is called data sonification. Like its more popular counterpart, data visualization, sonification transforms data in an attempt to communicate meaning.

This process of translating data into an unfamiliar form for an aesthetic purpose can be compared to "anticommunication". In a 1970 position statement on technology and composition to UNESCO, Herbert Brun called the process of new language development "anticommunication" and saw anticommunication as the offspring of communication, an attempt to say something through new modes. Brun defined anticommunication as an active way of re-defining or re-creating the language.

Heat and the Heartbeat of the City is a series of sonifications (translations of data to sound) that illustrate scientifically predicted climate changes focusing on the heart of New York City and one of the first urban locations for climate monitoring, Central Park. According to a 1999 report published by the Environmental Defense Fund, New York City will be dramatically impacted by global warming in the near future. Average temperatures in New York could increase by one to four degrees fahrenheit by 2030, and up to ten degrees by 2100. The impacts of these changes on this major metropolitan area will be great.



(above) two screenshots of Heat and the Heartbeat of the City



Listeners travel forward in time at an accelerated pace and experience an intensification of heat in sound. The data sonified is actual data from summers in the 1990's and projected data for the summers of New York in the 2020's, 50's, and 80's using one of the most detailed climate models of any urban area. All data has been modeled and formatted especially for the creation of sonifications by scientists of the Climate Research Group at the NASA Goddard Institute.

N. is a project created in collaboration with Joe Gilmore, a web artist and programmer from the UK. Climate

change in the Arctic is an important indicator of global climate changes. N. is a near-real time sonification of arctic data, updated regularly, from the National Oceanic and Atmospheric Administration's (NOAA) Arctic research program. Important to this project is a custom piece of software created by Polli in collaboration with computer programmer and video artist Kurt Ralske. This software is open source and is available to other artists at: <http://www.andreapolli.com/datareader/>. N. premiered at the 2005 Lovebytes Festival in Sheffield, UK.

An active, real world engagement with data models and databases is an important aspect of both these projects. Is transforming data different from transforming the raw material of the real world? Like a photograph, a data set is a representation, but unlike a photograph, this representation can be entered, explored, and transformed. A data set can be experienced, but unlike a real-world experience, it can be replayed from various points of view and under different conditions. The weather and climate models in these projects are designed to respond to various conditions. Simulations are tested against the real world and the results either confirm the accuracy of the model or force the scientists to reconsider and re-design. Can a simulation precede or even cause events in physical reality? Stalbaum sees the database not as a static subject on which an artist projects meaning, but as a "catalyzing factor in the conversation." He optimistically states that "data and control systems provide a channel through which ecosystems are able to express an influence in favor of their own protection."

References

Brun, Herbert. "[Technology and the Composer.](#)" As read to the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Stockholm, 10 June 1970

Stalbaum, Brett. "[Database Logic and Landscape Art.](#)" Netzpannung 24 January 2004

Andrea Polli is a digital media artist living in New York City. She received a Master of Fine Arts in Time Arts from the School of the Art Institute of Chicago and is currently Director of the MFA Program in Integrated Media Arts at Hunter College. She works in collaboration with meteorological scientists to develop systems for understanding storms and climate through sound. For this work, she has recently been recognized by the UNESCO Digital Arts Award 2003 and has presented work in the 2004 Ogaki Biennale in Gifu, Japan and at the World Summit on the Information Society in Geneva, Switzerland among other venues around the world.

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