CRITICAL REFLECTION # 2

ListeningCups: A Case of Data Tactility and Data Stories

by Audrey Desjardins and Timea Tihanyi

Human beings are very tactile creatures. However, many advancements in technology focus in on screen-based technology- which are impressive, but begin to move away from a connected and grounded experience. Technology and tactility are not exclusive. ListeningCups by Audrey Desjardins and Timea Tihanyi illustrates how data can not only be visualized, but physicalized into even our most daily rituals.

ListeningCups is a project about sound data. These porcelain cups are 3D printed, with ridges representing spikes in sound, and flat areas representing no sound, into otherwise plain cylindrical cups. Ambient sound data was captured and turned into textures, which were then made into the physical realm. They chose digital ceramics to truly tie our rich tradition and history with the material, especially due to its link to the home.

This project is based on the idea of data physicalization, a practice that transforms data sets into physical objects that can be manipulated, explored, and used for communication. Often, data is represented in very flat dimensions, including but not limited to bar graphs and other charts. By bringing data into the physical realm, it allows it to come to the forefront of our minds, allowing us to be conscientious of something that is so often background noise.

This data also lends itself to a narrative that can be evoked through the physicality and abstraction of data. When one is told about the data embedded into these cups, they can imagine what sounds could have made such ridges, and what prompted the silences. They can wonder where the sounds were recorded, and relate as they feel the textures under the pads of their fingers. These narratives also prompt similar narratives from others. In Weather Report, a site-specific artwork, an outdoor hall of balloons have colors projected onto them which represent individual data readings. This artwork is entrenched in the local human experiences of weather as a narrative, outlining stories of past storms and different weather phenomenons that seem to have disappeared or appeared due to climate change. These sorts of physicalizations of data can be a perfect marriage between the sciences and the arts, connecting people to different narratives or concepts.

Another, more scientific example is another 3D printing project- where cardiac blood flow data was physicalized into physical models. This was an extension of the current visualizations, which while detailed, suffer from a lack of limited depth perception and screen space. Depth perception was entirely accurate with the 3D printed models, as opposed to an 80% accuracy

with the digital models. While there was no overbearing advantage of the physical versus digital models, the tangibility and realistic size of the physical model were popular among those who tested both.

An interesting project that seemingly does the same thing in reverse is Shaleph O'Neill's visualizations of cycling data. Taking an embodied, physical and decidedly tactile experience and representing it in a digital form, O'Neill explores using data points as art, as well as synaesthesia. By crossing over the senses, body data as well as movement over the three axes changed the data visualization, creating a colorful, organic shape that moves erratically, changing the size and color using the data variables for terrain, speed, altitude and heart rate. Taking a physical activity that embodies the essence of tactility and transforming it into a digital, abstract form also perpetuates a narrative: where is the cycler, how fast are they going, how fast is their heart going? These questions all point to a similar questioning pattern to ListeningCups, despite their opposite paths.

The tactility of ListeningCups and other data physicalizations stray from putting focus on a screen and our visual sense, however, making them a much more embodied human experience. Imbuing physical objects with data also gives them narrative that people can feel, touch, and imagine.

Additional Works Cited

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3. O’Neill, Shaleph. “Synaesthesia and Cycling Data Art: Towards Cross-Modal Representations of Self-Tacking Cycling Data.” DIGITAL CREATIVITY. EBSCOhost, doi:10.1080/14626268.2019.1615513. Accessed 6 Dec. 2019.