A Generative Sound Mural,
The Whole Inside
Sounding the Body

OLIVIA LOUVEL

The Whole Inside is a generative sound mural combining artificial and human voices, expanding the plastic dimension of voice. The work confronts femininity and abuse, by which the body is being depersonalized, leading to subsequent dissociation as a defense mechanism to cope with traumatic events. The work is based on a graphically violent text sourced from the incels.me (“involuntary celibates”) forum.

PIERCED FORM, PIERCED BODY

“I rarely draw what I see, I draw what I feel in my body” [2], stated British sculptor Barbara Hepworth, who worked from a strong sense of her own body. Hepworth first began to pierce her carvings with Pierced Form in 1931—the year she gave birth to her first child. With my piece The Whole Inside (Fig. 1), I investigated my own body, questioning my physical narrative. Initially, I envisaged my body to be cast with the abdominal area pierced in the middle. This would have required me to collaborate with a sculptor. I then opted for a digital translation using a 3D body scanner [3], collecting my own physical data. The body initially perceived as a vertical sculpture became horizontal, as a grid for the audience to navigate.

Reflecting on Hepworth’s pierced sculptures, Jeanette Winterson observes that the “holes are also tunnels or worm-holes making a route through time” [4]. A series of tunnels—a web—also emerges from the grid of my digitally rendered body. The scanned and measured body remains immobile; only the head is visually expanding through digital manipulation.

SPEECH, VOICE MANIPULATION AND RANDOMIZATION

Using the function “text to speech,” I selected the computer-generated voice “Oliver, male, English” to perform a text that I had re-scripted from the incels.me forum and from an article by journalist Catherine Bennett [5].

This text should be spoken at rate 0.

I want to murder a femoid. bjkbfblef
You deserve to be raped ///////////////// bjkbfblef
I I I I I I I I I I I I I I I I I I I I I
Want to
Take a surgical KNIFE, cut open her abdominal area
and remove the organs
while she is alive.
O organ
while she is alive.
O knife
while she is alive.
O remove the organs
while she is alive.
O cut open her
while she is alive.

Incels define themselves as unable to find a partner despite desiring one. Most of the men identifying as Incel have shown extremist views on the forum, the Internet providing a platform for them to communally offload their anger. Their violent ideology has driven some members to the extreme of actually committing murder [6]. Spanning centuries of entitlement to women’s bodies, men have disallowed women agency in their own bodies; this male collective has determined ownership. My work The Whole Inside responds to this by letting the female body speak, reconnecting two entities, mind and body.

My artistic practice is built upon a long-standing exploration of the voice, sung or spoken, and its manipulation through digital technology as a compositional method. I manipulated the voices here with AudioSculpt [7], sculpting the sound directly through its graphical representation. Generalized cross-synthesis allowed me to blend two voice sources. By crossing the spectral contents of two sound files, I was able to render a new sound made up of a combination of spectra. I also processed my voice with GRM Tools Evolution to “obtain continuous evolution of timbre by frequential sampling of the input signal” [8].

My voice can be heard reciting the “Our Father” in French: “Notre père qui êtes aux cieux.” The whispered and granulated recitation alternates randomly between speakers 1, 4 and 8. Throughout the early stage of sound organizing, I used the digital audio workstation Pro Tools as a working desk—a horizontal timeline to lay out ideas in progress.

For Umberto Eco, 1959 marks the early days of indeterminate composition [9]. In “The Poetics of the Open Work,” Eco describes a new musical work, which rejects “the definitive, concluded message” and can “multiply the formal possibilities of the distribution of their elements” [10]. Now, with computer algorithms available, we can further expand these possibilities of distribution. For The Whole Inside, I wrote a patch (Fig. 2) to randomize each audio signal with the open source programming language Pure Data [11], applying principles of conditional logic to randomly and indefinitely distribute the voices. In computer science, conditional expressions are features of a programming language that perform different actions depending on whether a condition evaluates to true or false. I have set the rules and let the machine, the virtual agent, act on my behalf.

A TONE THAT CAN BE SEEN: A SOUND MURAL

An array of nine Visaton speakers follows the contour of the body in The Whole Inside. Each speaker has a limited frequency range of 200Hz to 15kHz, as well as being limited in power to two watts. Embracing these parameters, the piece in its display is not a sonic intimidation but has a narrative dimension, tracing a fragile sonic line on the curved delineation...
tion of the body, revealing itself to the experiencer through time. The signal path is as follows: The desktop computer with Pure Data Extended is outputting to the interface Motu (828 MK3). From the interface’s nine outputs, I connect two Cambridge Audio 540r 6.1 amps using jack-to-phono cables. The amps then output to the nine Visaton speakers. The setup required me to solder each individual Visaton speaker to cables.

I was drawn to the potential of the Visaton piezo speakers to incorporate sound and voice in a nonconventional manner: Within the mural of data projection, the voices are expanding from the wall, from the projected body as a relief. Kersten Glandien states that “artists understood sound as ‘matter’ and sought to mould sound, by giving it a sculptural structure” [12]. Working toward giving a sculptural structure to the voices, I have attempted to expand the plastic dimension of voice through the nine piezo speakers contouring my body.

The equipment with its web of cables is visible, the computer digitally feeding the grid of the body, the Visaton speakers sounding the body (Fig. 3).

Sound artists Finnbogi Pétursson, Stephen Vitiello and Robin Minard are known for utilizing the existing walls of buildings as blank canvases. The speaker drivers allow the artists to integrate sound diffusion elements within a visual textural environment as a relief sculpture, thus expanding from the surface of the wall so that sound and art merge.

In Silent Music (1994–2012), Robin Minard wall-mounted a vast number of piezo loudspeakers, which he graphically displayed, providing a strong narrative. Minard states that in his work, “the idea of sound installation has meant something very specific: the integration of sound in public environments and therewith the merging of works not only with existing architecture but also with everyday situations and real functioning surroundings” [13]. In Crazy Wall Thing (2005), Stephen Vitiello used a similar setup of piezo speakers mounted to the wall, displaying four amplifiers on the floor with no attempt at concealing the equipment [14]. Finnbogi Pétursson installed his piece Corner (2000–2006) in the corner of a room on two adjacent walls, with eight speaker drivers on each wall, forming a minimalistic canvas of black dots—the speakers—on the white background.

**SLIDE AND DATA PROJECTION**

Following my interest in combining slide and data projection, I have produced slides of dots, which appear at times in the hole of the body or by the head. These dots are made from punching holes in paper. I filmed the analog slideshow and then digitally integrated the dots onto the body. My approach was to work with the superimposition of layers. The dots are abstract stains; their short appearance in the circle is subliminal.

Art historian Charles Harrison states that slides have a “technical innocence, having little history as an artistic medium but instead a practical association with documentation” [15]. It is precisely this technical innocence that appeals to me here.

For the expansion of the head, I collaborated with animator Antoine Kendall [16] using 3ds Max. The wall operates as a canvas, and the Visaton “speaker dots” merge with the visually projected dots (Fig. 4).

**EPHEMERAL**

Sound art is an ephemeral art; the work exists when installed. Time-based media works have duration as a dimension and unfold to the experiencer over time. It becomes difficult to digitally conserve these types of work: Operating systems become obsolete, and interfaces cease to be compatible. How then does an artist document this ephemeral art? This article participates in documenting the work, as does the captured moving image of the installation [17]. However, sound art is meant to be physically experienced, by the body, by all senses in a durational context, in the moment, in the space.

*The Whole Inside* was installed at the Sound Diffusion...
Laboratory, Digital Music and Sound Art, University of Brighton, from 31 May to 2 June 2019. Conflicted responses to the piece were left in the comment book: “Your work is very upsetting”; “Thank you for addressing such important yet shaking issues, for your courage”; “Tiny data, channels of sisterhood.”

Susan Hiller believes that her commitment to working with language was strengthened by the women’s movement and her understanding of herself as a female [18].

We can draw a parallel between the emancipation of voice through technology and the emancipation of women through the appropriation of these newly democratized tools (laptop, open source software, online tutorial), making the voice heard through sound and art: An amplified voice as a feminist strategy for self-representation.

The Whole Inside was to be reinstalled at Sonorities Festival 2020, in Belfast, but due to Covid-19 the festival was postponed to 2021.

References and Notes

1 www.incels.me (accessed 4 July 2018).
6 Bennett [5].

Acknowledgments

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Olivia Louvel is a composer and artist whose work draws on voice, computer music and digital narrative, operating at the intersection of creation and documentation. Her productions have been presented at venues and festivals such as Chapter Arts, Ikon Gallery, Anthony Burgess Foundation, De La Warr, Le Cube, Brighton Digital Festival and CTM Festival. Her latest work, [Hepworth Resounds] (2020), is a multipartite project on British sculptor Barbara Hepworth. The Sculptor Speaks is a re-sounding of a 1961 tape of Hepworth’s voice, premiered on Resonance Extra and followed by an audiovisual iteration. The release SculptOr is a suite of nine pieces based on Hepworth’s writings.

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OLIVIA LOUVEL