

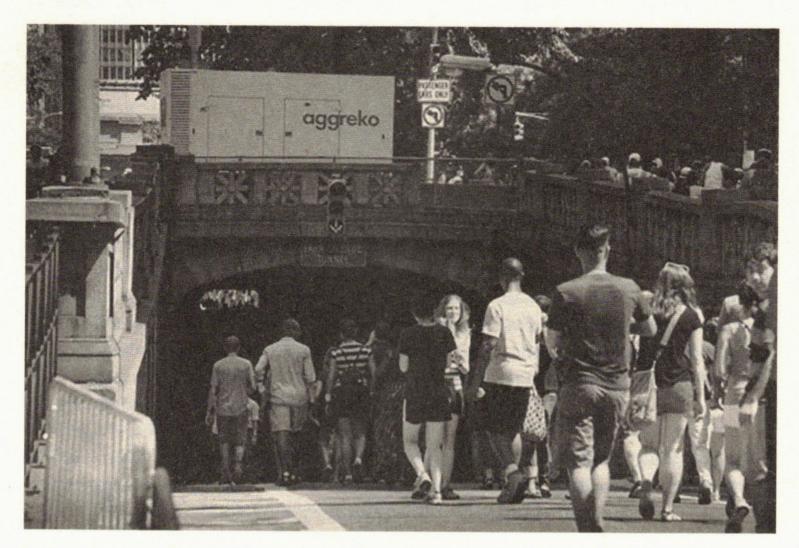
Zeynep Bulut



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# Distributed Speech: Voice Tunnel and Atmospheric Memory

In August 2013, Rafael Lozano-Hemmer exhibited his interactive public installation *Voice Tunnel* in the Park Avenue Tunnel of New York City. It was part of Summer Streets, an annual street festival in New York City that encourages New Yorkers to participate in "open streets", "healthy recreation" and "sustainable forms of transportation" such as biking and walking.<sup>1</sup> *Voice Tunnel*, which corresponds to the festival's interest in fostering



**Figure 9.1** Rafael Lozano-Hemmer, "Voice Tunnel, Relational Architecture 21", 2013. Photograph: James Ewing.

an engaged interaction with the city, is a piece of "relational architecture", in Lozano-Hemmer's description. Lozano-Hemmer uses the term "relation-specific" instead of site-specific. What he means by it is not necessarily a given connection between a public space and the occupants in that space. Rather, it suggests that we should question our ideas of participation, community and public space.

Running from East 33rd Street to East 40th Street, Park Avenue Tunnel is a transitional passage, initially designed for a railway in the 1830s and later used for streetcars. During the exhibition, the tunnel was closed to traffic and opened to pedestrians for the first time in history.<sup>3</sup> The Park Avenue Tunnel became a voice tunnel with pedestrian voices. The installation used 300 theatre spotlights and 150 loudspeakers. Participants spoke or sung to an intercom placed in the middle of the tunnel, which recorded voices. Played as a loop, each new recording mobilized the previous one and activated the lights that were "immediately beside it".<sup>4</sup> The traces of speaking voices mingled with one another modulated the brightness of the lights, which disappeared and reappeared at different times:

The intensity of each light is automatically controlled by the voice recording of a participant who speaks into a special intercom that is in the middle of the tunnel. Silence is interpreted as zero intensity and speech modulates the brightness proportionally, creating a morse-like code of flashes. Once a recording is finished, the computer plays it back as a loop, both in the light fixtures that are closest to the intercom as well as on an inline loudspeaker. As new people participate, old recordings get pushed away by one position down the array of lights. So that the "memory" of the installation is always getting recycled, with the oldest recordings on the edge of the tunnel and the newest ones in the middle. At any given time the tunnel is illuminated by the voices of 75 visitors. Once 75 people participate after you, your own recording disappears from the tunnel, like a memento mori.<sup>5</sup>

Thinking through *Voice Tunnel*, I examine the symmetry between voice and light it instantiates, as well as the proportional distribution of voices and their alignment, the "memory" of the voices that "gets both recycled and disappeared", and how communal and improvisatory voice-making can function as a kind of tactile speech.

#### Voice as light

In *Voice Tunnel*, a voice recording is translated into light by analyzing volume, frequency and intonation. This translation articulates voice not necessarily as a source of illumination or enlightenment. When asked about light, Lozano-Hemmer references two contexts: the use of lights in the club scene and the use of light as a tool of interrogation and violence. These remarks are mentioned in various interviews with Lozano-Hemmer and texts on *Voice Tunnel*. In our conversation at the exhibition *Atmospheric Memory*, Lozano-Hemmer explained what he meant by these references.

Club lights, he mentioned, allow people to both appear and disappear. People could express, forget or hide themselves on the dancefloor, a disorienting public space that can function in different ways. It can be a bubble in which people can affirm their identity in the company of others from a similar socioeconomic and cultural background. It can be a medium through which people can lose, find and transform themselves. But the dancefloor is also a contested site, where people from different



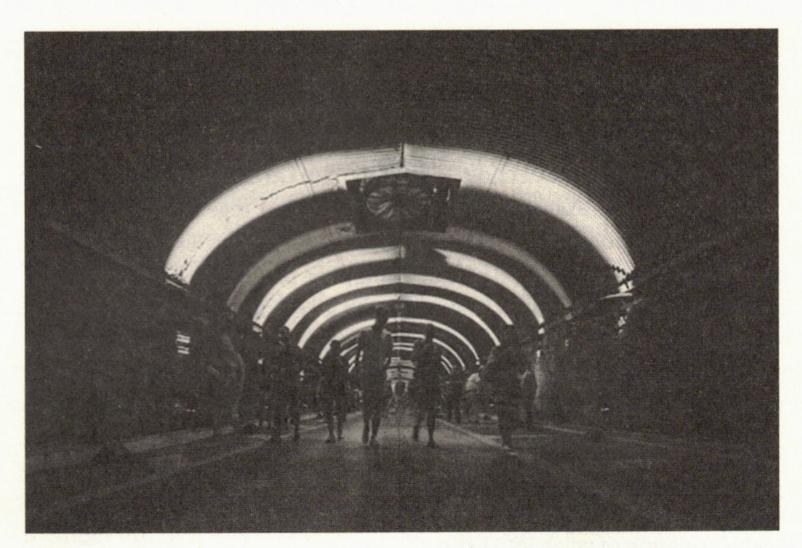
**Figure 9.2** Rafael Lozano-Hemmer, "Voice Tunnel, Relational Architecture 21", 2013. Photograph: NYC Department of Transportation.

backgrounds may watch and/or desire to be watched by one another, and in effect, where different identities may compete as well as unite.8

Listening to Lozano-Hemmer, I was reminded of various dance music cultures, primarily within the context of 1970s disco culture. Scholars of this history such as Alice Echols, Will Straw, Tim Lawrence and Luis Manuel Garcia-Mispireta<sup>9</sup> examine how urban decay and regeneration policies, alternative economies of communal gatherings and parties, sound system and atmosphere, media and broadcasting have played into identity formation and transformation, as well as offered a critical perspective for revisiting notions of race, class, gender and sexuality. Of course, histories of dance-music cultures are not the point of *Voice Tunnel*. However, Lozano-Hemmer's remark on light brings this scene to mind. Furthermore, as a child of night club owners in Mexico City, where he was exposed to strobe lights, disco balls and color-changing luminaires, histories of dance music cultures do not seem so far away from Lozano-Hemmer's imaginative transformation of voice into light.

The second context corresponds to Lozano-Hemmer's reflection on light as "blinding device". "I am interested in the light used at the border and for interrogation. I am interested in the light that doesn't know whether it's a particle or a wave", he says. Both light and vibration can be used as tools of violence. As Lozano-Hemmer mentions, the idea of light as interrogation was subtly implicated in *Voice Tunnel*. His other remark, the light "that doesn't know whether it's a particle or wave", is more suggestive for the installation. That is, the light that does not know whether it takes place in a particular spot or spreads out over the tunnel, or whether its appearance or force is temporary. With this idea, *Voice Tunnel* employs both the visibility and the invisibility of light. It activates the (in) visibility of light while converting voice into light. And it considers lightened voices in a "party" context, generated by "a lot of people speaking all together, a certain cacophony, and a very urban experience rendered by the lights". 12

Regardless of what participants may vocalize, when a voice gets recorded in *Voice Tunnel*, it becomes both audible and visible whilst being played back. Like the construction of light as arcs, the installation draws attention to the construction of voices, which Lozano Hemmer identifies as a "mapping of voice into light". This mapping is also informed by the direction "the linearity of the tunnel", prompting the participants to "go from story to story" and "tune into people's different realities". Lozano-Hemmer considers the



**Figure 9.3** Rafael Lozano-Hemmer, "Voice Tunnel, Relational Architecture 21", 2013. Photograph: James Ewing.

mapping of voices an "architectural narrative", which is not preconceived but live and emergent, given the "crowd-sourced" and interactive nature of the installation. This idea was previously referenced in another installation by Lozano-Hemmer, titled *Pulse Park* (2008).

A large-scale interactive installation exhibited in Madison Park in New York City, *Pulse Park* is a network of light beams modulated by a sensor that records and measures the heartbeats of participants. The heartbeats are projected as pulses of light that move around 200 spotlights, which turn the park into a "fleeting architecture of light and movement," in Lozano-Hemmer's words. Exploring the ways in which public space and interactive participation emerge and develop, Lozano-Hemmer employs "information technology, computerised surveillance and biometrics." He uses these technologies while providing a critique of them. Here what we have is a critique of this kind, using recording and measurement of an individual heartbeat and concretizing it into a fleeting pulse. In so doing, Lozano-Hemmer converts information into noise. He introduces a safer mode of being out and about, where one can appear and disappear simultaneously within the web of lights in a fleeting way. Manifesting in

around 200 lights, the "who" of the heartbeat gets lost and multiplied in a playful way.

Both *Voice Tunnel* and *Pulse Park* multiply the "who" of life, be it in the form of breath, heartbeat or voice, and remake a public space through this multiplication. In *Voice Tunnel*, the recorded voices that interact and become light also facilitate "a fleeting architecture" of movement. This we are encouraged to experience in the form of a timeline, a passage of various pasts, presents and futures. In the middle, there is an intercom that records voices that come from the past, voices that speak with the present, and voices that are projected toward possible futures. These voices mingle with one another in an order and in multiple languages and sounds. Together they make noises and light up the tunnel.

### Proportional distance and alignment: A midpoint but not a "cacophony"

"It is better to light a candle than curse the darkness..."

"If you can make it here, you can make it anywhere"

There was singing, screaming and laughing in *Voice Tunnel*. Participants "posed and stood in line to be able to have their voice heard". One participant proposed to his partner via the intercom. Walking the tunnel together, a marriage proposal may sound romantic. But the acoustics of the tunnel made it difficult to hear what was said. Indeed, such acoustics facilitated a comfortable environment for the participants for saying things out loud without anxiety, given that nobody could perfectly hear anyone else. The proportional alignment was also the proportional distance between the voices.

Lozano-Hemmer's architectural narrative is a live processing of that kind. He forms a communal space where voices appear and move in proportion with one another and with the space that they occupy. The voices spatially extend and expand the tunnel. They suggest a mapping of the tunnel in a way participants have not considered before. As Commissioner of NYC Department of Transportation Janette Sadik-Khan says, the project encouraged New Yorkers to explore "underneath NYC for the first time in history". Pedestrians got to investigate a public zone that they were not allowed to enter before. This intervention already suggests an alternative mapping of the tunnel, as well as engaging with what's underneath the

Photograph: James Ewing.

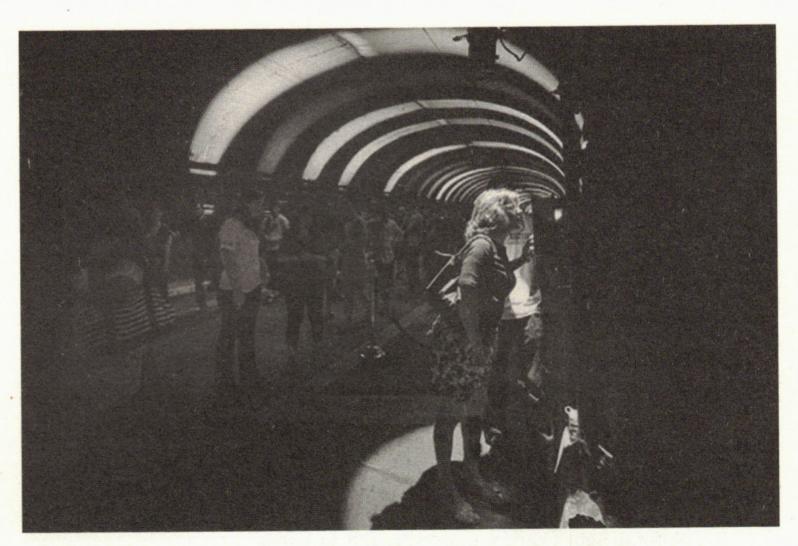


Figure 9.4 Rafael Lozano-Hemmer, "Voice Tunnel, Relational Architecture 21", 2013.

city, the common grids of many. The common grids of many, as Lozano-Hemmer conveys, are not cacophonous. <sup>20</sup> Speakers do not play the 75 recordings simultaneously but in an order, in synch with the lights. The order of this process, or what I call communal and participatory voice-making, in effect generates distributed speech.

I suggest distributed speech as a form of non-dialogue, which does not necessarily operate with verbal reciprocity. Non-dialogue does not address a single person. It does not have a single direction. It comes and goes through multiple directions, as partial and plural. Voice is already a plural phenomenon. Each one of us carries another's voice, both in physical and in cultural terms, with various somatic and linguistic embodiments. This process changes with age and environmental factors, and also varies according to languages that we speak and culturally operate in. But we tend to consider the phenomenon of the voice mostly at the heart of syntax, verbal exchange and intentionality.

Husserl's speech paradigm suggests intentionality as a linguistic exchange between an addressing subject and an addressee. This intentionality implies a dyadic and indexical transaction. In effect, what is meant is never fully indexical. What speaks and what is heard are almost always shaped by multiple histories and subject positions. Bakhtin's theory of "dialogism" and its difference from dialogue are important to note in that regard.

There are certain methodical procedures of listening and arguing implicated in a dialogue, especially in a Socratic dialogue. Bakhtin's literary methods, such as heteroglossia, divert us from methodical procedures of listening and argumentation. They rather point to the social contingency of language, a patchwork of multiple discourses and interrelated actors and multiple directions of speech. Bakhtin's dialogism, as Paul de Man writes, manifests "fiction and fact" as co-emergent and co-dependent, and treats the characters "not as voices of authorial identity or identification but voices of radical alterity, not because they are fictions and the author isn't, but because their otherness *is* their reality."<sup>21</sup>

The highlighted difference between dialogism and dialogue is parallel to the nuanced distinction between the otherness and the other. <sup>22</sup> It is not easy to tap into the otherness of the other or decipher what is meant or being fabricated as meaning at a societal level. It takes a "shared communal labor"<sup>23</sup> to "decrypt the repressed message hidden in the public utterance". <sup>24</sup> The repressed message is not always a subtext of what manifests or is said otherwise. It can also be a message that operates in a present tense being generated communally. It demands recognizing the "otherness of the other" <sup>25</sup> in the making of a message. Paul de Man underlines this point, while reiterating Bakhtin's emphasis in his methods on dialogism rather than dialogue. <sup>26</sup>

The distributed speech, the non-dialogue, of *Voice Tunnel* can be understood as a prolongation of Bakhtin's notion of dialogism instead of dialogue. This configuration of voices draws attention to the divergences and deviances of speech, as well as to the points of disconnect and the moments of interruption in any discursive interaction. The aesthetics of sound poetry, contemporary art music and experimental music traditions – such as the use of phonemes, glossolalia, neologisms, bodily noises – contest the syntax and reciprocity of language, be it verbal, musical or theatrical. Michel de Certeau summarizes well what these experimentations suggest in his discussion on glossolalia. As he writes, "glossolalia

is a deviant linguistic, language but not a structure, which functions like a facade". Distributed speech can be aligned with this idea of social facade. It is a shared surface of vocal fragments, instances of visuals and the touch of sonic occurrences. It speaks from both structural networks and "raw oralities", in Brandon LaBelle's terms.

In *Voice Tunnel*, the voices are distributed physically and virtually, but, more importantly, proportionally. Proportional distribution of voices is activated by light, not simply because speech gets materialized and mobilized as light, but because such a speech also articulates the appearance and disappearance of voice physically. This is how Lozano-Hemmer imagines voice as light, one that manifests both appearance and disappearance, that becomes both individual and anonymous. The uncertainty of speech is woven by the individuated, anonymous, context-sensitive and unsettled voices that are both underneath and up in the air. The uncertainty highlights the quest for what is being heard and said more than the identity of the speaker. The midpoint marked by the intercom makes the mingling of voices neither perfectly clear nor perfectly chaotic. The intercom performs the proportional alignment and distance across the voices, without a sense of synthesis or resolution.

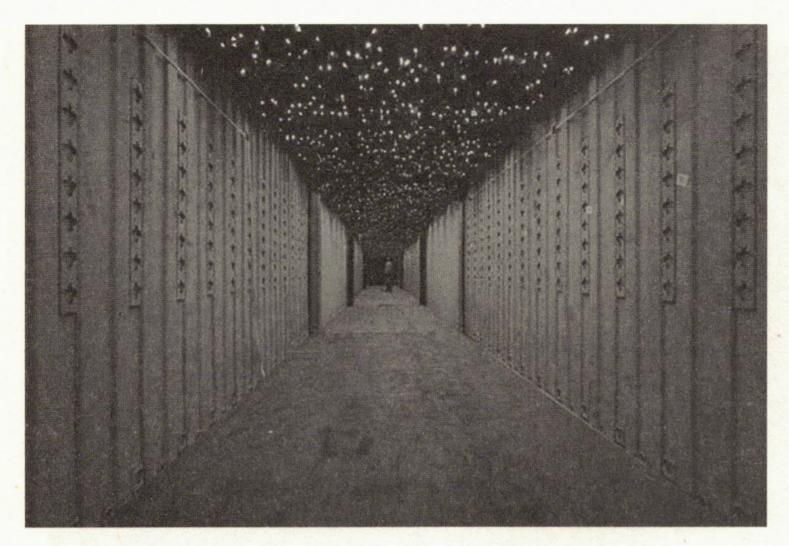
#### Tactile speech in a memory of voices

The midpoint may lead us to the acknowledgement of distant intimacies, to a conscious feeling of the momentary touch of both familiar and strangers' voices, to an active recollection, a memory of voices. "Memory of voices" directly echoes Lozano-Hemmer's interactive media exhibition *Atmospheric Memory* (2019).<sup>29</sup> Like *Voice Tunnel*, the works included in *Atmospheric Memory* pursue distributed speech and translate live-fed voices into various physical appearances and disappearances. If *Voice Tunnel* surfaces the voices underneath, *Atmospheric Memory* materializes the voices up in the air.

The title of the exhibition takes its cue from scientist and computer pioneer Charles Babbage's question: Can we imagine the air that we share as a "vast library of voices"? Inspired by this question, *Atmospheric Memory* concretizes the voices not simply in the form of words but also in the form of light, of three-dimensional sculptures, tactile experiences and

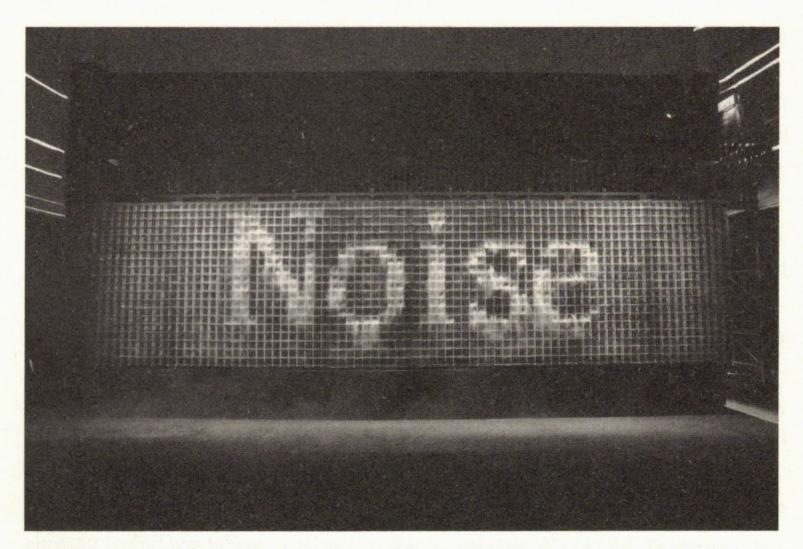
sonic and physical actions. In the age of cloud computing and datasets, our voices are recorded, tracked, stored and categorized on a daily basis. Babbage's imagination has long been manifested in sound-recording and voice-recognition technologies. Nevertheless, manifestations of voices are not perfectly measured or locked into a single physical form. They are rather distributed and shared by many. In line with the ideas of distribution, library and memory, the exhibition took place in the old warehouse, built in 1830 at one end of the Liverpool to Manchester Railway, which now forms part of Manchester's Science and Industry Museum. The warehouse was reimagined as an immersive art environment, consisting of old and new works by Lozano-Hemmer. These works included *Atmosphonia* (2019), *Cloud Display* (2019), *Voice Tank* (2019), *Weather Vanes* (2019) and *Volute* (2016).

Atmosphonia featured "3,000 audio channels on custom-made speakers with LED lights". Designed as a tunnel, it was the first installation and led to the exhibition's main site. In the tunnel, the audience heard various recordings, from "wind, water, fire, ice" to "over 200 types of insects, over



**Figure 9.5** Rafael Lozano-Hemmer, "Linear Atmosphonia", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photo: Mariana Yañez.



**Figure 9.6** Rafael Lozano-Hemmer, "Cloud Display", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Jason Lock.

300 types of birds, bells, bombs and so on. The recordings had an order, and yet they also drew attention to the co-existence and affinities between human and nonhuman sounds, as well as speech and non-speech sounds. Similar to *Voice Tunnel*, lights lit up when the recordings played.

The main exhibition site hosted *Cloud Display*, a "text display with 1,600 ultrasonic atomizers, controlled by voice recognition system". Lozano-Hemmer explains the mechanism of the display as such: "Using water vapour, the display writes any words spoken into an intercom. The atomizers are typically used for cold-water humidifiers. In Manchester the system was set to recognize different accents in English from single words to full sentences". Cloud Display is a poetic realization of Babbage's imagining of air as the library of voices and of Lozano-Hemmer's account of voice as both appearance and disappearance.

An audience member speaks a word into the intercom and the display writes the word spoken. The words first get materialized and then disappear into the air. The display concretizes voices as words but more importantly draws attention to the fleeting process of voicing and wording,



**Figure 9.7** Rafael Lozano-Hemmer, "Cloud Display", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Jason Lock.

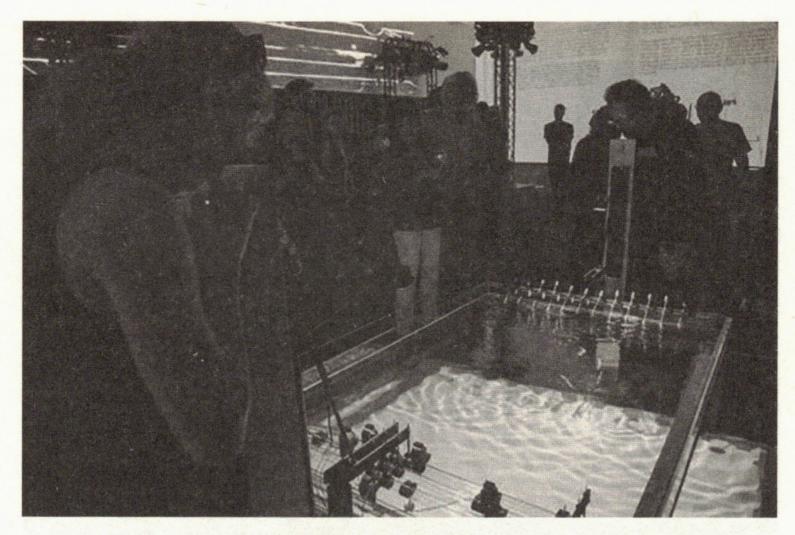


**Figure 9.8** Rafael Lozano-Hemmer, "Cloud Display", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Mariana Yañez.

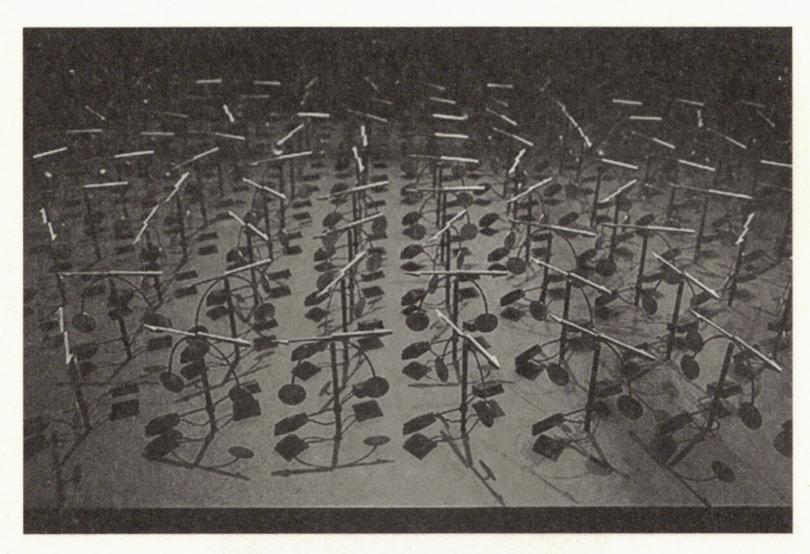
a process that is both physical and poetic. The audience hears and sees, and is touched by, the cold water vapour. Words evaporate and so do their loaded meanings. But the display also reveals how words and voices can come back and activate movement in different forms. The other two installations, *Voice Tank* and *Weather Vanes*, demonstrate how a voice can trigger turbulence.

Literally a tank, *Voice Tank* works with "polyphonic pitch detection" and "motorised components", which enables pitch analysis of two participants' speaking voices, resulting in "waves" that "created patterns". The tank manifests voice as water waves, patterns and movement. *Weather Vanes* takes this idea further and shows a case of turbulence generated by live voices and speech. The system uses a "pneumatic turbulence generator controlled by Mel-frequency cepstrum voice analysis", which examines a wider spectrum of pitches and signals that may not be equally distanced. The piece "features 99 brass arrows inspired by anemometers and weather vanes", which "measures wind speed and



**Figure 9.9** Rafael Lozano-Hemmer, "Voice Tank", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Mariana Yañez.

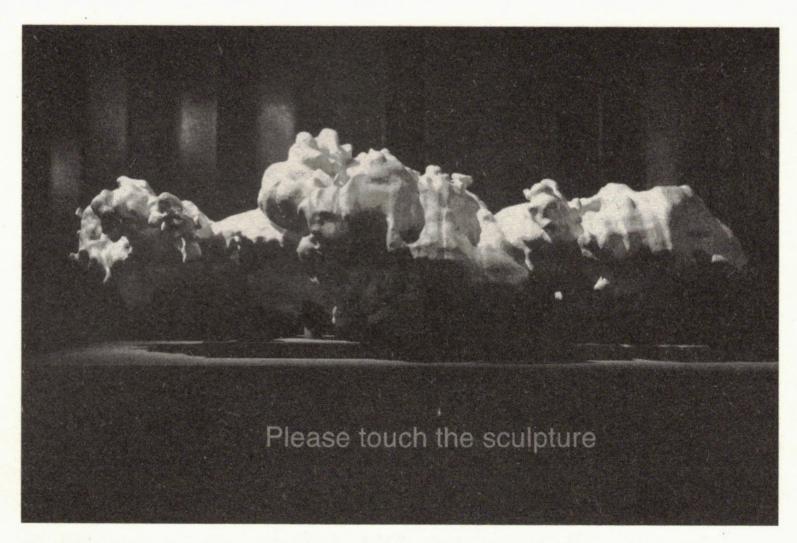


**Figure 9.10** Rafael Lozano-Hemmer, "Weather Vanes", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Mariana Yañez.

direction and miniature computerized fans" activated by live voices that "creates turbulence". In effect, the installation visualizes the process of generating turbulence.

Finally, *Volute* (2016) is a 3D sculpture, "a speech bubble printed in steel, capturing the exhaled breath and the air turbulence ejected as a sentence is spoken". The sculpture is "made with laser tomography scans, photogrammetry and 3D printing." The chosen speech for this work is "*Au clair de la lune*" – the first ever mechanically recorded human voice, recorded by Édouard-Léon Scott de Martinville in 1860. Volute materialized recorded breath and speech. Its sculptural form but was not displayed in the reverent way an art gallery might display such a piece. Instead, given permission to touch the sculpture the audience was encouraged to imagine the contours, textures and curves of Martinville's voice. The sculpture also encouraged those who saw it to consider whether this voice still belonged to Martinville. Externalized and re-formed in a tangible way, the sculpture incites the audience to touch



**Figure 9.11** Rafael Lozano-Hemmer, "Volute 1: Au Clair de la Lune", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Jason Lock.

and to embody Martinville's breath and speech, so that Martinville's voice is no longer only his voice.

Taken together, the installations mobilize and distribute voice as material forms, as multisensory experiences, as vocal and sonic acts. Together they emphasize temporary, fleeting, and both measurable and unmeasurable aspects of voicing. They articulate how a voice can be both individual and anonymous. The sky of *Atmospheric Memory* is a "stream of letters drawn from the text of the collected works of Charles Babbage and Ada Lovelace", projected onto the ceiling of the exhibition room. And the ground of the exhibition is the audience voices, faces and bodies, live-fed into the activation of the installations. From *Pulse Park* to *Voice Tunnel* and *Atmospheric Memory*, Lozano-Hemmer employs biometrics, biosensing, voice- and facial-recognition technologies to precisely critique the measurement and classification of voices. In so doing, he also raises a question about the authenticity of identities, of voices, as well as the question of control and biased surveillance.<sup>39</sup>

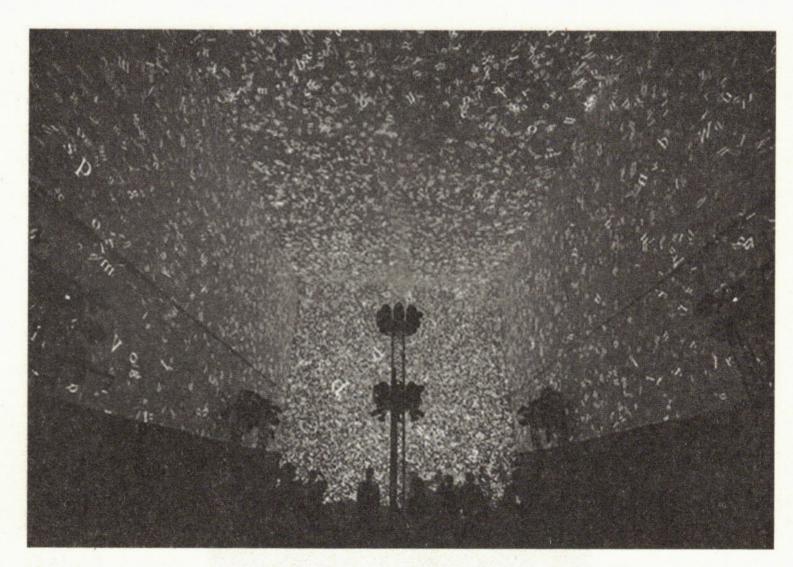


**Figure 9.12** Rafael Lozano-Hemmer, "Babbage Lovelace, Text Stream 1", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

## Communal non-sense: wake-up or dream call?

The age of CCTV, cloud computing and datasets urges us to critically revisit the parameters and agents of machine listening and speech, environmental damage that such technologies generate, and our habituated reliance on or lack of knowledge about algorithms. Algorithms govern our everyday lives. They make us think about the errancy of both human and machine speech. In a recent interview, when asked about the implications of immersive art environments and *Atmospheric Memory*, Lozano-Hemmer said that he considered the exhibition not as an immersion to escape reality but as "a call to action against the catastrophic collapse of the atmospheric conditions for planetary survival; against the concentration of all the power of the digital atmosphere into very few hands; against the weaponisation of the sky via guided missiles and drones; and so on".<sup>40</sup> In short, he suggested *Atmospheric Memory* was "a wake-up call".<sup>41</sup>

Photograph: Rob Connor.



**Figure 9.13** Rafael Lozano-Hemmer, "Babbage Lovelace, Text Stream 1", Atmospheric Memory, Manchester International Festival, Manchester, 2019.

Photograph: Mariana Yañez.

What I wish to underline here is how such a wake-up call, the common ground and air of people's voices, is generated with a palpable uncertainty, with a communal non-sense or state of not-knowing, which, in reminding us of our shared vulnerability, gives rise to solidarity. The wake-up call is indeed a "dream call". Artist and healer Carole IONE, referring to psychologist Arnold Mindell's notion of "non-consensus reality", emphasizes the "multidimensional world of the dream of reality and the reality of dream". That is, dream and reality are intertwined, and what we experience in this intertwined moment may not be fully resolved. Dream worlds are often fragmented. Day or night, what we gather from dreams are individual scenes and feelings rather than a complete story. We can analyze and make up dreams by telling them in a particular order. Regardless, we do not necessarily resolve them. The disconnects, the seemingly unrelated signs in dreams, can remain as fleeting signals that can return to woken awareness from time to time.

If we can have a "non-consensus reality" in dreams, how can we respond to a non-consensus reality when we wake up? If we can fall

asleep together, can we somehow dream together? Interactive and participatory art prompts us with a case of dreaming together, without a resolution. The distributed speech in both *Voice Tunnel* and *Atmospheric Memory* creates a platform for "the dream of reality and reality of the dream", in IONE's words. Recall the voices turning into light and speaking in multiple languages, speech sounds mingling with concrete and non-speech sounds, words passing through or enveloping us as water vapour, vocal acts activating air turbulence and movement, and breath solidified as a three-dimensional sculpture. Participants are all involved in the making of a voice that manifests itself as many voices in various forms and senses. As this voice gets mobilized, what it says also gets mobilized.

#### Response and responsibility

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If we don't know who is speaking, if there are no names associated with the voices or utterances, who will be accountable for what is being said?<sup>44</sup> Anonymity and constant derivation of voices point to questions about response and responsibility. This question is most often asked in relation to social media platforms, but participatory art is also no stranger to it. Art historian Claire Bishop stresses the need for "tension" between "spectacle" and "participation".<sup>45</sup> As she writes:

Participatory art is not a privileged political medium, nor a ready-made solution to a society of the spectacle, but is as uncertain and precarious as democracy itself; neither are legitimated in advance but need continually to be performed and tested in every specific context.<sup>46</sup>

In other words, participatory art is a context-sensitive and crowd-sourced process. It can be socially engaged and impactful, but it cannot perform a calculable social or aesthetic result. It is rather an experiment that makes the uncertain and the precarious endurable and, more so, shared.

And this is exactly what distributed speech (and non-dialogue) performs in *Voice Tunnel* and *Atmospheric Memory*. The memory lane of voices on both occasions is precarious, uncertain, and shared. The voices are also "untimely",<sup>47</sup> in philosopher Elizabeth Grosz's terms. The "untimely" is a "cut, nick, crack, rupture",<sup>48</sup> which makes us reflect on the "endurance" of the material aspects of the present time, as well as on the stretch to a

still-distant future. As Grosz posits, "the more clearly we understand our temporal location as beings who straddle the past and the future without the security of a stable and abiding present, the more mobile our possibilities are, the more transformation becomes conceivable".<sup>50</sup>

The process of manifesting, projecting and experiencing voice in multiple physical forms and cross-modal intensities encourages participants to face this temporality. Participants listen in the presence of another, in movement. The process highlights how one individual sense, body, image, name or word is implicated in another, how bodies co-exist and co-operate without completely disappearing, merging or resolving. It also points to the various instances of voicing across bodies of all kinds, not simply as tangible but also as insensible. Response and responsibility, in this framing, are entangled, as geographer Kathryn Yusoff tells us.<sup>51</sup> Exploring this entanglement, Yusoff refers to Karen Barad's notion of responsibility and Jean-Luc Nancy's notion of sense.

According to Barad, responsibility is "not an obligation that the subject chooses". It is an "ongoing and incarnated relation" already embedded in emerging and evolving responses that we are generating and participating in. Such a relation, Barad argues, is produced "not through the realisation of some existing possibility but through the iterative reworking of im/possibility, an on-going rupture". Responsibility is a heavy word. It does indeed imply rupture more than possibility. It sheds light on limitation, as well as on extension and expansion as these are related to limitation. To revisit the notion of responsibility at the heart of response is suggestive. A response can take many forms, but in all forms, it manifests itself as a relational gesture. More than the call, the response prompts us to consider both the sender's and the receiver's ends, and the gap between the two.

For Nancy, a state of "being-here and exposed there" can count as response, one that similarly situates "a rock and a human". How can a rock and a human be similarly situated? In what language, in which time-frame or tense, and under which bodily limits and formations, might a rock respond? We might hear the response of a rock while touching the rock or attending to the environment of the rock. We might also imagine a response while wandering along a memory lane associated with or triggered by the rock.

The point is that we would hear a variety of voices including the ones we might possibly miss or otherwise dismiss. Such an interaction is exploratory. One hears, listens, feels the other without presuming or settling into a single response. There may be several responses distributed across multiple times, spaces and bodies, similar to the distributed speech that one can experience in *Voice Tunnel* and *Atmospheric Memory*. The multiplicity of responses and distributed speech contests given meanings, given voices, and the habitual acts of giving a voice to others. The multiplicity sustains a shared unknown not in a mystified but precisely in a material sense. It generates affinities among strangers. It highlights the acts and processes involved in responding with others. It thus renders each of us responsible for others.

The tactility of this speech, as prompted in *Voice Tunnel* and *Atmospheric Memory*, is twofold: First, the sense of touch becomes a catalyst for imagining, materializing and embodying a voice. Second, the touch of the voice – be that the touch of solidified breath, the momentary touch of another's voice, voice as warmth of light or as evaporating air – establishes a tension between intimacy and distance, a precarious ground that maintains the uncertainty of who, when, where and what is speaking. This tactile speech, I argue, facilitates the process of building a voice together, one that is individuated but anonymous, one that makes every *body* responsible for each other.

#### Notes

- 1 See the description of *Voice Tunnel* on the artist's website: http://lozano-hemmer.com/voice\_tunnel.php. Also, see the description of the NYC Summer Street Festival via the following link: https://www1.nyc.gov/html/dot/summerstreets/html/about/about.shtml Last accessed on 13 March 2023.
- 2 See Zeynep Bulut, "Last Breath: Sensing Life," 2021.
- 3 See the description on the artist's website and project page. http://lozano-hemmer.com/voice\_tunnel.php
- 4 Ibid.
- 5 Ibid.
- 6 Anna Altman, "Voice Tunnel," *The New Yorker*. 8 August 2013. http://www.newyorker.com/online/blogs/culture/2013/08/voice-tunnel.html Last accessed on 13 March 2023.
- 7 Zeynep Bulut, "Interview with Rafael Lozano-Hemmer," Atmospheric Memory, Manchester International Festival, Science and Industry Museum, 2019.

- 8 See Alice Echols, *Hot Stuff: Disco and the Remaking of American Culture* (New York: W.W. Norton, 2010); Will Straw, "Dance Music," *The Cambridge Companion to Pop and Rock*, eds. Simon Frith, Will Straw and John Street (Cambridge: Cambridge University Press, 2001), 158–75; Tim Lawrence, *Love Saves the Day: A History of American Dance Music Culture* (Durham, NC: Duke University Press, 2003).
- 9 Ibid. See also Luis Manuel Garcia-Mispireta, *Together, Somehow: Music, Affect, and Intimacy on the Dance Floor* (Durham, NC: Duke University Press, 2023).
- 10 See the video documentation and Lozano-Hemmer's portrayal of light and voice, Park Avenue Tunnel, DOT Summer Streets, New York City, United States, 2013. Video by The Creators Project, a Vice Production. https://lozano-hemmer.com/voice\_tunnel.php Last accessed on 13 March 2023.
- 11 Ibid.
- 12 Ibid.
- 13 Ibid.
- 14 Ibid.
- 15 Ibid.
- 16 My discussion of *Pulse Park* and on the affinities between *Pulse Park* and *Voice Tunnel* is based on my article, "*Last Breath*, Sensing Life," 2021, 367–83.
- 17 Ibid.
- 18 See the video documentation. DOT Summer Streets, Park Avenue Tunnel, New York City, New York, United States, 2013. https://lozano-hemmer.com/voice\_tunnel.php
- 19 Ibid.
- 20 See video documentations. https://lozano-hemmer.com/voice\_tunnel.php Last accessed on 13 March 2023.
- 21 Paul de Man & Godzich, W. "Dialogue and Dialogism," *Resistance to Theory* (Minneapolis: University of Minnesota Press, 1986), 109, 110.
- 22 Ibid., 110, 111.
- 23 Ibid., 108.
- 24 Ibid., 108, 110, 111.
- 25 Ibid.
- 26 Ibid.
- 27 Michel de Certau, "Vocal Utopias: Glossolalias," *Representations*, No. 56, Special Issue: The New Erudition (Autumn, 1996), 29.
- 28 See Brandon LaBelle, "Raw Oralities: Sound Poetry and Live Bodies," VOICE: Vocal Aesthetics in Digital Arts and Media, eds. Norie Neumark, Ross Gibson, Theo van Leeuwen (Cambridge, MA: The MIT Press, 2010), 147–73.
- 29 Atmospheric Memory (2019) was commissioned by Manchester International Festival, Science and Industry Museum, FutureEverything, ELEKTRA / Arsenal Contemporary Art, Montreal and Carolina Performing Arts University of North Carolina at Chapel Hill. The exhibition is supported by Wellcome, and education programme promoted by The Granada Foundation.
- 30 See https://www.lozano-hemmer.com/linear\_atmosphonia.php Last accessed on 14 March 2023.
- 31 See https://www.lozano-hemmer.com/cloud\_display.php Last accessed on 14 March 2023.
- 32 Ibid.

- 33 See https://www.lozano-hemmer.com/voice\_tank.php Last accessed on 14 March 2023.
- 34 See https://www.lozano-hemmer.com/weather\_vanes.php Last accessed on 14 March 2023.
- 35 Ibid.
- 36 See https://www.lozano-hemmer.com/volute\_1\_au\_clair\_de\_la\_lune.php Last accessed on 14 March 2023.
- 37 Ibid.
- 38 See https://www.lozano-hemmer.com/babbage\_lovelace.php Last accessed on 14 March 2023.
- 39 See Zeynep Bulut, "Last Breath, Sensing Life," 2021.
- 40 "Interview with Rafael Lozano-Hemmer," https://factoryinternational.org/whats-on/atmospheric-memory/interview-rafael-lozano-hemmer/ Last accessed on 14 March 2023. See also https://futureeverything.org/portfolio/entry/atmospheric-memory/
- 41 Ibid.
- 42 Carole IONE, Listening in Dreams: A Compendium of Sound Dreams, Meditations and Rituals for Deep Dreamers (Ebook, Ministry of Maat, 2020), 15.
- 43 Ibid.
- During my talk on *Voice Tunnel* and distributed speech at the University of Aberdeen in 2021, my friend and colleague Jonathan Hicks asked what would have happened if a participant said something offensive during *Voice Tunnel*. This question made me think about response and responsibility, a theme I further developed in a subsequent talk on the same topic as part of the lecture series *Whose Voice Matters? The voice (in art) as material, sense, meaning and power,* convened by Salomé Voegelin at Die Hochschule für Bildende Künste Braunschweig, Berlin in 2021. My thanks to Jonathan Hicks and Salomé Voegelin for inviting me to present early excerpts of my book at these events.
- 45 Claire Bishop, Artificial Hells: Participatory Art and the Politics of Spectatorship (London, New York: Verso Books, 2012), 277, 278.
- 46 Ibid., 284.
- 47 Elizabeth Grosz, *The Nick of Time: Politics, Evolution, and the Untimely* (NSW: Allen and Unwin, 2004), 14.
- 48 Ibid.
- 49 Ibid.
- 50 Ibid.
- 51 Kathryn Yusoff explores "insensible" modes of interactions across bodies of all kinds to suggest alternative ways of dealing with climate change and biodiversity loss. See Kathryn Yusoff, "Insensible worlds: postrelational ethics, indeterminacy and the (k)nots of relating," *Environment and Planning D: Society and Space* 2013, volume 31, pp. 208–26.
- 52 Yusoff quotes Barad. Karen Barad, "Quantum entanglements and hauntological relations of inheritance: dis/continuities, spacetime enfoldings, and justice-to-come," *Derrida Today* 3, 2010, 265. Yusoff, 208, 209.
- 53 Ibid.
- 54 Ibid.
- 55 Here Nancy makes an association between the biblical meaning of the name Peter and the rock. Yusoff quotes Nancy. See Jean-Luc Nancy, *The Sense of the World* (Minneapolis, MN: University of Minnesota Press, 1997), 71. Yusoff, 208.

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