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'There's no such thing as a neutral algorithm': the existential AI exhibition confronting Sydney

Artist Rafael Lozano-Hemmer's Atmospheric Memory allows visitors to interact with generative tech – and become part of the show in unexpected ways

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When Y2K seemed like the world's most pressing technological concern, the Mexican-Canadian artist Rafael Lozano-Hemmer was using a dictionary and a set of grammatical rules to teach a computer how to write questions. The program he built can make enquiries in Spanish, English, German and French, in 4.7tn possible combinations. When the

artwork showed at the San Francisco Museum of Modern Art last year, it still had 271,000 years of new questions to ask.

Which is to say, Lozano-Hemmer has been working with generative technology long enough to have learned a powerful lesson: “There is no such thing as a neutral algorithm.”

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This lesson was reiterated to the Bafta-winning media artist in a spectacular, humiliating fashion at Miami Art Basel a little over a decade ago. It was his first time using facial recognition technology, still nascent at the time, in an artwork: The Year’s Midnight would show viewers a projection of their face on a screen, then snatch out their eyeballs, leaving plumes of smoke wafting from the sockets.

“It was working fine,” Lozano-Hemmer says, until Sean Combs - the rapper variously known as Puff Daddy, P Diddy, or Diddy - stepped up to try it. The facial recognition tech simply couldn’t locate Combs. “He took off his glasses, which is a big deal,” Lozano-Hemmer says. “Early versions of face detection depended on contrast with a backdrop. And the backdrop was black.” Combs figured out the problem as quickly as Lozano-Hemmer did: “He was like, ‘This is racist’.”

(From that moment on Lozano-Hemmer and his programming team developed more robust ways to test their artworks.)

▲ Rafael Lozano-Hemmer with his work Cloud Display at the Powerhouse museum, Sydney. Photograph: Don Arnold/WireImage

Anyone fiddling around with ChatGPT these days must be cognisant of AI’s biases, he says. “You must keep always underlining to yourself that you’re working with a set of decisions and prejudices that were made at the time of coding,” he says, adding: “The technology is getting better … on the other hand, better for whom?”

“Better for whom?” is exactly what Lozano-Hemmer hopes people will ask as they wander through Atmospheric Memory, his new exhibition conceived with and curated by José Luis de Vicente, at Sydney’s Powerhouse museum. The show required more than 60 people, from eight different countries, to mount. It is best described as an immersive exhibition, but Lozano-Hemmer is well aware of the baggage that phrase comes with. “I can’t stand that shit,” he says of projection-based exhibitions, “where you’re supposed to go in there and feel like you’re at one with nature, or you’re seeing again the work of these old masters”.

The centrepiece of Atmospheric Memory is Field Atmosphonia, a vast, velvet-dark room where visitors wander under 3,000 speakers, each one ringed with twinkling lights and playing an individual field-recording. It features 300 species of bird song, which transition into bushfires and crashing waves; a cacophony that hits you at full-force, right between the ears.

▲ Lazano-Hemmer's work Field Atmosphonia, which involves – he thinks – 32km of cables. Photograph: Zan Wimberley

“As you walk around, you create a narrative out of the 3,000 recordings,” Lozano-Hemmer says. As the speakers turn on, the viewer is bathed in a moving halo of light. But behind the scenes: “It’s a nightmare - it’s got, I think, 32km of cable.”

The show’s premise stems from a paragraph in the Ninth Bridgewater Treatise, written by the computing pioneer Charles Babbage in 1837. Babbage proposed that the air surrounding us could be a “vast library” that, once attuned to properly, could offer perfect recollection, capturing every movement, moment and utterance ever passed. This notion is “very romantic and beautiful,” Lozano-Hemmer says, “but it is a very dystopian project.”

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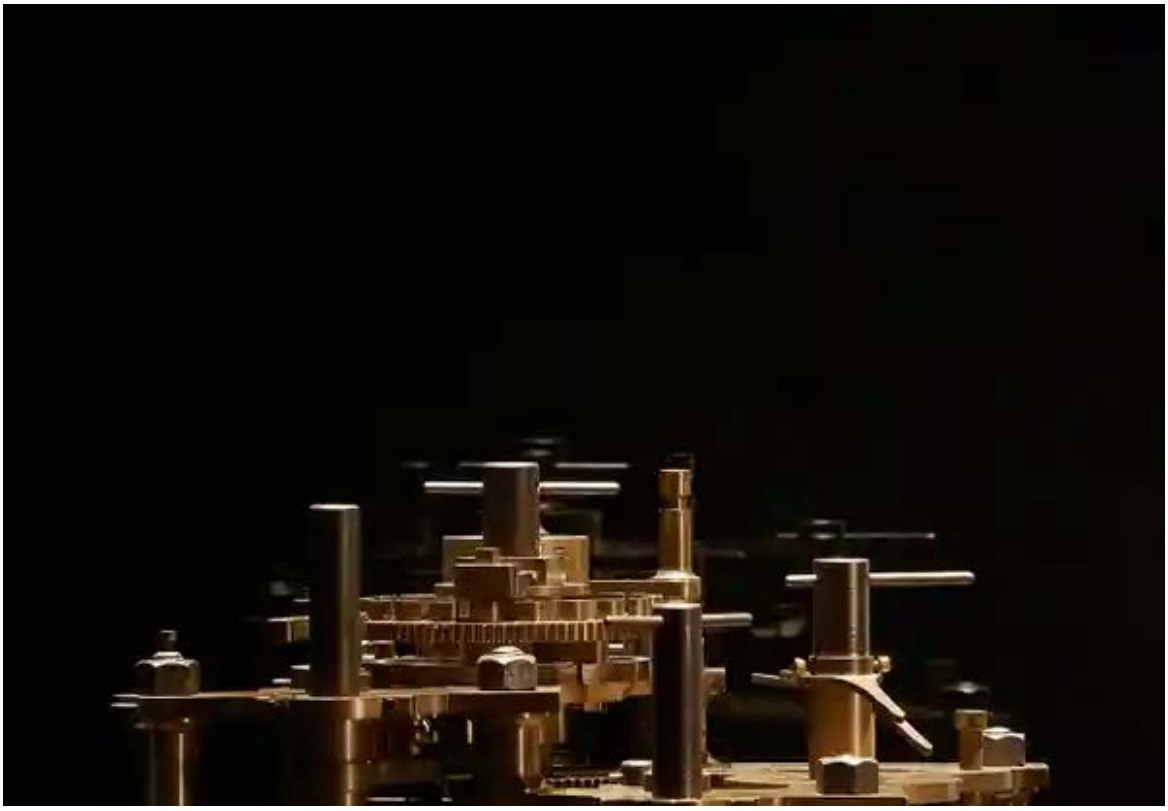
In the exhibition’s first room, the core of one of Babbage’s mechanical calculators, Difference Engine No 1, is on display. The Powerhouse curator Angelique Hutchinson says looking at the steampunk device, about the size of a shoebox, can be an existential experience. “It is quite humble,” she says. But when you reflect on the predictions Babbage made, many of which came to pass, “it causes you to think about where we’re going to go next”.



▲ Charles Babbage's Difference Engine No.1, 1822 – 23, from the Powerhouse's collection. Photograph: Zan Wimberley

Nearby is a series of conversation booths built by Lozano-Hemmer, where visitors can sit and watch the words from their mouths transformed into text as they speak. Whatever they say will be answered by a digital incarnation of Babbage, trained on the computer scientist’s texts, and powered by OpenAI, the technology behind ChatGPT.

Lozano-Hemmer believes there are three human qualities that technology will never be able to replicate: we can improvise, we can forget and, perhaps most importantly, we can die.

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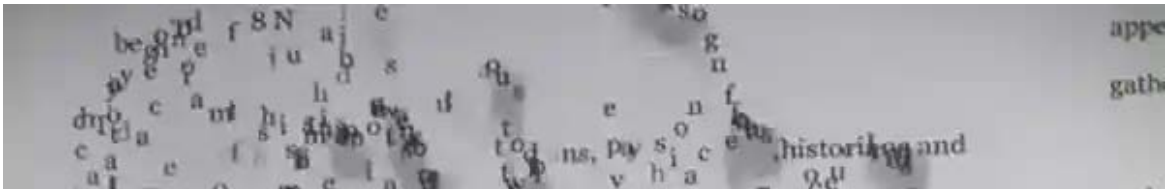
These ideas are interwoven into Atmospheric Memory, an interactive exhibition that depends on human improvisation. “It is quite boring without people,” he says, as we walk through the largely-empty exhibition space together.

Machines are also “really good at remembering” – a spoiler for the dystopia to come – and as for death, it is everywhere. When unattended by a living person, the interactive works occasionally generate text or movement on their own – “possessed” by Charles Babbage, a ghost in the machine.



▲ Airbourne Projection: ‘Kids just love to play with this,’ Lazano-Hemmer says. Photograph: Zan Wimberley

The avant garde accordionist Pauline Oliveros, who died in 2016, also makes a posthumous appearance in the show: before she died, she exhaled into a device which now circulates her breath between a bellow and a brown paper bag.

In watching Oliveros’ “Last Breath” going in and out, you’re “observing the fleeting time that we’re here and the fragility of that bag,” Lozano-

Hemmer says. He chases that existential observation with another insight: if it weren’t permanently aspirating air from a dead artist, the bag would be used for fried chicken. That’s the best kind to capture breath, he says, because it’s “lined with plastic, for the juices”.

The climax of the show is Atmospheres, a “projection chamber” that takes up the museum’s lofty 11m walls, and all 252sm of its floor space. As with the rest of the show, moments of spectacle and opportunities for self-regard are everywhere. A shadow-play allows viewers to see their silhouettes scaled up and projected over giant pages of text. As they move, their body heat evaporates the words around them. “Kids just love to play with this,” Lozano-Hemmer says.

▲ Cloud Display, a work that turns speech into water vapour. When it debuted in Manchester in 2019, people would say ‘fuck Brexit’, Lozano-Hemmer recalls. Photograph: Zan Wimberley

Another work lets viewers speak into a microphone and see their utterance transform into a literal text cloud, made of cold water vapour. When the work debuted in Manchester in 2019, “People were like, ‘fuck Brexit’,” Lozano-Hemmer says. “They were just speaking their mind. The piece does not censor. It writes anything that you say to it.”

The work has subsequently been modified for Australian audiences – not to limit locals’ expansive capacity for foul language, but to better comprehend it. The artwork is powered by Google’s transcription engine, and since switching it over to Australian English, “we’ve noticed a big improvement. It really understands Australians.”

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Towards the end of the cycle, the whole room crashes. We are presented with Babbage's hope for his "vast library" in the air – that it could reveal past misdeeds, and bring slave owners to justice – which is followed by what Lozano-Hemmer says is the rallying call of our time: "I can't breathe."

The projections suddenly turn inward, showing CCTV footage of the room itself. This is Zoom Pavillion, a 2015 work made in collaboration with the Polish artist Krzysztof Wodiczko. Viewers now see themselves on screen, not as stars but as targets. The technology that seems so entertaining can just as easily be used to capture, classify and control.

From there, it gets worse. A random visitor who shared a booth with Babbage at the beginning of the exhibition will see their face blown up, in close up, across the full height of the room.

That face is joined by more and more images of exhibition attendees, all logged and remembered – because computers do not forget. It is disturbing to witness, even if your face isn't up there. "Even if you don't see yourself, you understand that the spirit of this project is that all of this comes at a cost," Lozano-Hemmer says.

▲ 'All of this comes at a cost' … Zoom Pavilion. Photograph: Zan Wimberley

For me, Lozano-Hemmer's work brings to mind Arthur C Clarke's third law: "Any sufficiently advanced technology is indistinguishable from

magic.” At first, his art dazzles. But just like when a magician’s secrets are revealed, there is a point when it no longer seems magic - you just feel tricked. And that moment is the point, he says, where you realise “you are the content … where all of the different technologies that have been used for simulation of this environment can be seen for what they are”.

Babbage wasn’t wrong about the air around us being a recording device, Lozano-Hemmer says. “What is atmospheric memory? Well, the memory of industrialisation that Babbage helped automate is this carbon dioxide that is currently increasing. The atmosphere has been colonised by drones, which are bombing people right this minute. It is the site for oligarch networks of power and control.

“What can we do, other than make evident these mechanisms, to reclaim the atmosphere as a site for song and community, as a site for poetry and engagement?”

In the hopes of answering that question, Lozano-Hemmer has added a denouement to the dystopia.

Instead of being shattered then spat out into the gift shop, visitors walk from the projection chamber into a sort of decompression room: a library lined by archival posters from Australian protest movements, with books on the climate crisis, surveillance capitalism, and Indigenous knowledge systems, with spaces to sit, read and breathe.

“The artwork needs to be directing all of that emotion into something that can be practical,” Lozano-Hemmer says, adding: “We don’t tell you what to think or not to think. We let interaction generate the conditions for change.”

> *Atmospheric Memory is open at the Powerhouse, Sydney until 5 November. Rafael Lozano-Hemmer is also speaking at Acmi, Melbourne on 15 August*

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