

Vectorial Orientations: Manuel Maples Arce and Rafael Lozano-Hemmer

 forum.lasaweb.org/articles/56-2/vectorial-orientations-manuel-maples-arce-and-rafael-lozano-hemmer

THE LASA MAGAZINE

FORUM

Dossier: Borderlands 2.0. Las nuevas fronteras

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In this essay, I examine two artistic proposals conceived almost a century apart: Manuel Maples Arce's avant-garde manifesto *Actual No. 1* (1921) and Rafael Lozano-Hemmer's *Border Tuner* (2019). Reading both through the lens of borderlands, I contrast Maples Arce's vertical, individualistic vision of an avant-garde as a threshold to a new temporality to Lozano-Hemmer's horizontal dialogic framework that celebrates community, reciprocity, and an ethics of listening.

In December 1921, the poet Manuel Maples Arce posted the avant-garde manifesto *Actual No. 1* on the walls of Mexico City, launching the literary and artistic movement Estridentismo. A paean to modernity, the text celebrated the new technologies—such as skyscrapers, suspension bridges, and airplanes—that altered both outward surroundings and inner experience. The poet conceived of himself as an antenna, capturing the electrifying sensations of contemporary experience. Writing, “I center myself in the striking vertex of my irreplaceable presentist category, equilaterally convinced and eminently revolutionary, while everyone who is outside the axis looks on with wringing hands, spherically astounded,” he embodied a vertical vector, while associating the oblivious public to overwrought curvilinear forms, indicating their obsolescence (*me centralizo en el vértice eclatante de mi insustituible categoría presentista, equiláteramente convencida y eminentemente revolucionaria, mientras que todo el mundo que está fuera del eje, se contempla esféricamente atónito con las manos torcidas...* in Maples Arce 1921, recto).

Maples Arce dreamed of wedding art and technology. The radio, telegraph, and telephone were central elements of his modernist ecosystem. Sound waves carrying information from yonder provided a source of wonder. Decrying lyrical poetry and melodic musical

compositions as retrograde and overdone, he affirmed, “I insist on the insuperable literature that honors telephones and perfumed dialogues carelessly tacked together by conducting threads” (*De aquí que insista en la literatura insuperable en que se prestigian los teléfonos y diálogos perfumados que se hilvanan al desgaire por hilos conductors*, in Maples Arce 1921, recto). He was likewise fascinated by the news (which arrived by wire), writing “How much greater and deeper emotion have I managed to experience in an arbitrary and suggestive newspaper clipping,” than in any form of bourgeois art and entertainment then in vogue (*Cuanta mayor, y más honda emoción he logrado vivir en un recorte de periódico arbitrario y sugerente*, in Maples Arce 1921, Point III). *Actual No. 1* would usher in the boisterous and rebellious Estridentista movement, conformed by writers and artists clamoring for artistic renewal in the Mexican post-revolutionary moment (see Flores 2013).

21st-century new media Mexican artist Rafael Lozano-Hemmer works at the vanguard of technical innovation while also rendering homage to modernist visionaries of the past who believed in technology’s transformative potential. Pushing the boundaries of what is possible through computational wizardry, Lozano-Hemmer’s work would have been a dream come true for Maples Arce, had he lived long enough to experience it (Flores 2020). Not only does Lozano-Hemmer adopt the media championed by his predecessor, including the radio, newspaper, and telephone, but he also aligns with Maples Arce’s aesthetic of simultaneity and preference for abstract geometric forms. Throughout the manifesto, the poet disdained external reality as insincere or uninteresting, claiming that “[t]ruth never happens or comes about outside of us” (*La verdad, no acontece ni sucede nunca fuera de nosotros*, in Maples Arce 1921, Point I). Eschewing the overly complex, he embraced an aesthetic “of easy reciprocal adaptation, which [...] illuminates our marvelous wish of totalizing interior emotions and sensory suggestions in multifaceted and polyhedric form” (*de fácil adaptación recíproca, que [...] ilumine nuestro deseo maravilloso de totalizar las emociones interiores y sugerencias sensoriales en forma múltanime y poliédrica*, in Maples Arce 1921, Point VII).

Although he could not predict the scope of the technological advances that the twentieth century would usher in, Maples Arce’s call for a simplified formal language contingent on structural relations, as opposed to appearances simulating the real, is fulfilled by Lozano-Hemmer’s *Vectorial Elevation* (1999), one of the first among a series of works by the artist involving searchlights controlled by participants. Conceived as a public art project to celebrate the new millennium in Mexico City’s iconic Zócalo square, *Vectorial Elevation* consisted of eighteen searchlights placed along the perimeter of the plaza, whose movements could be programmed by web users through a simple interface. Passersby would witness a kinetic lightshow of intersecting vectors in the night sky, forming any number of geometric patterns designed by remote participants. With its global reach, relational approach, and unfolding in real time, the art installation would fulfilled Maples Arce’s fantasy of attaining “the psychological unity of the century” (*la unidad psicológica del siglo*, in Maples Arce 1921, point X). Describing the effects of new technologies, he wrote, “Everything approaches and recedes in the shaken moment. The medium transforms itself, and its

influence changes everything” (*Todo se acerca y se distancia en el momento conmovido. El medio se transforma y su influencia lo modifica todo* in Maples Arce 1921, point X). Over the course of his career, Lozano-Hemmer has demonstrated how technology as medium ushers in new artistic possibilities.

One of the most famous lines in *Actual No. 1* is “Let us become cosmopolitan. It is no longer possible to contain ourselves in conventional chapters of national art” (*Cosmopoliticémonos. Ya no es posible tenerse en capítulos convencionales de arte nacional*, in Maples Arce, 1921, Point X). Maples Arce envisioned a world in which “racial profiles and characteristics” would be erased, creating an undifferentiated global public (*tienden a borrarse los perfiles y los caracteres raciales*, Maples Arce, 1921, Point X). This prediction did not unfold as he would have imagined. For all his prescience, the poet did not foresee the militarized border between Mexico and the United States. Instead, he posited, “The only possible frontiers in art are the unbreakable ones of our own marginalist emotion” (*Las únicas fronteras posibles en arte, son las propias infranqueables de nuestra emoción marginalista*, in Maples Arce, 1921, Point X). In other words, he claimed that borders were a state of mind. Almost a century later Lozano-Hemmer, with the help of a multinational team, made this wishful declaration come true for a brief while through *Border Tuner*.

Border Tuner was an interactive light installation presented in November 2019 that bridged the sister cities of Ciudad Juárez, Chihuahua, Mexico, and El Paso, Texas, United States, which are separated by the Rio Grande and further divided by a massive border infrastructure.



Figure 1. Rafael Lozano-Hemmer, *Border Tuner / Sintonizador Fronterizo, Relational Architecture 23*, 2019. Bowie High-School / Parque Chamizal, El Paso / Ciudad Juárez, Texas / Chihuahua, United States / México. Photo by Monica Lozano.

Lozano-Hemmer's team positioned three robotic searchlights on each side of the border, one grouping situated on the grounds of Bowie High School in El Paso and the other in Chamizal Park in Juárez. Participants could control the movement of each searchlight by turning large dials located at six stations, each equipped with a microphone and speaker. When the light beam connected to its counterpart across the river, a luminous bridge that breached the physical border came into being between Mexico and the United States. The overlapping rays created temporary sound channels which allowed the people on both sides of the border to communicate with each other through the microphone and speaker. The artist's statement characterizes *Border Tuner* "as a visible 'switchboard' of communication where people can self-represent."^[1] In addition, public programs on both sides of the border addressing themes of shared interest added texture and context. Snippets of conversations, declamations, lectures, debates, and commemorations became integral parts of an artwork that celebrated collective authorship.



Figure. 2. Rafael Lozano-Hemmer, *Border Tuner / Sintonizador Fronterizo*, *Relational Architecture* 23, 2019. Bowie High-School / Parque Chamizal, El Paso / Ciudad Juárez, Texas / Chihuahua, United States / México. Photo by Mariana Yañez.

Border Tuner was both a feat of computational engineering and of logistical organization. It was made possible through bilateral cooperation across multiple agencies, including clearing permission to utilize the airspace above politically sensitive locations. Whereas Maples Arce exhibited an unfettered optimism in the potential of technology to usher in a new era for both society and aesthetics, Lozano-Hemmer has always tempered such enthusiasm by making visible technology's darker side. The searchlights used to bridge the space are typically employed for surveillance and the capture of fugitives, many of whom are innocent families in search of viable futures. In *Border Tuner*, the lights are resignified, but only temporarily.

For Maples Arce, new technologies would be radically democratizing on a collective level, and electrifying on an individual one. In his manifesto, the subjective experience of modernity received a great deal more attention than its social effects, which were alluded to by passing references to mass consumerism and labor unrest. Among Lozano-Hemmer's projects, *Vectorial Elevation* corresponds most fittingly with the poet's early aesthetic vision for the simple reason that by asking its audience to look up at the light show in the sky, it reinforces the vertical imagery that populates *Actual No. 1*. Early on, Maples Arce visualizes the poet as vertex and reinforces it at the end of the manifesto by recalling the image of the axis that he

alone occupies—"I, gloriously isolated" (*yo, gloriosamente aislado*, in Maples Arce, *Actual No. 1*, Point XIV). *Border Tuner* changes the orientation by prompting us to look across and to listen, thereby establishing multimodal horizontal relationships. In so doing, Lozano-Hemmer removes the authorial voice and makes the specific communities along the border—who are often forgotten, abstracted, vilified, or disregarded—the protagonists.

Envisaging himself as an isolated vector, Maples Arce established distance from others, signaling an attitude of refusal that was common in early twentieth century avant-garde discourse. *Border Tuner*, by contrast, forges relations across a horizontal expanse, foregoing associations with the horizon as an empty unknown and instead creating an uplifting message of warmth and friendship on the other side. Like *Actual No. 1*, the piece embraces simultaneity but rather than coding it as individualistic, the synchronous aesthetic effect is necessarily relational. It is worth remembering that the horizon is an optical illusion. The line that is formed when the sky meets the water or earth does not exist, and as such, it is an abstraction that is also omnipresent (see Flores 2017, 45-60). Whereas it is common to associate the horizon with the future, Lozano-Hemmer humanizes it in a manner that reveals a push and pull between abstraction and figuration. Although *Border Tuner* is premised on light vectors positioned in space, it is dependent on humans to activate it and give it meaning. In *Pulse Index* (2010), the artist uses a sensor to collect fingerprints and heart rates, which are projected across multiple screens to create "a horizon line of skin."^[2]

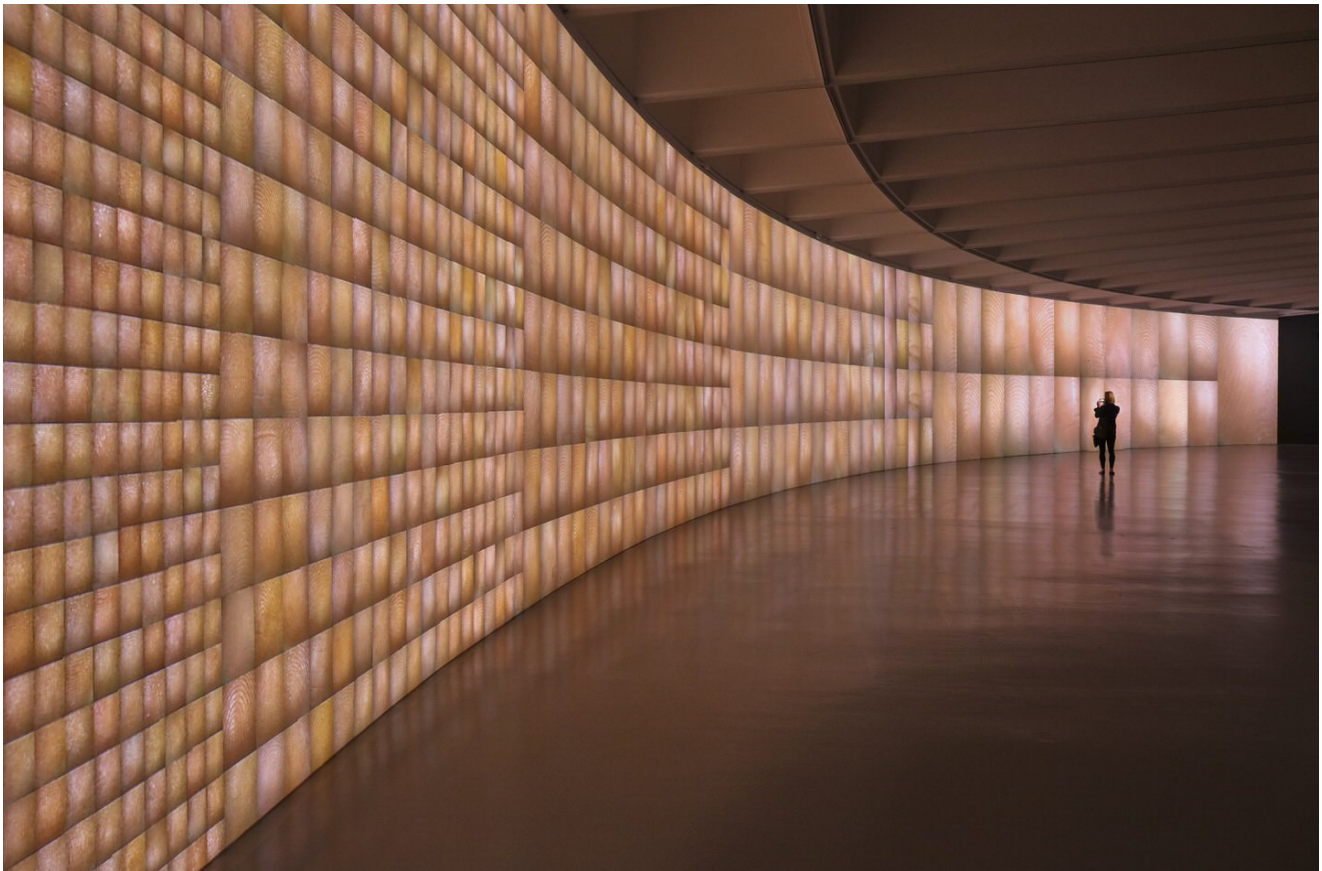


Figure 3. Rafael Lozano-Hemmer, *Pulse Index*, 2010. As seen in *Rafael Lozano-Hemmer: Pulse*, Hirshhorn Museum and Sculpture Garden, Washington, D.C., United States, 2018. Photo by Cathy Carver.

Displaying fingerprints of the most recent grouping of participants in a gridded format, Lozano-Hemmer juxtaposes both geometric abstract and irregular lines of the fingerprints as well as the sonic rhythms of heartbeats to locate the human behind what could otherwise read as a purely abstract composition.

In the volume *Storied Deserts: Reimagining Global Arid Lands*, co-editors Celina Osuna and Aidan Tynan caution against stereotypical representations of the desert as abstraction, a common characteristic of narratives, images, and films relating to Northern Mexico:

desert places and their communities are dynamic and diverse, despite dominant narratives which have homogenized ‘the desert’ into an abstraction. This abstraction, a nameless desert that conjures up imagery of sand dunes, sunlight, and vast horizons, has been perpetuated for centuries, crystalized by settler-colonial representations of arid environments as exotic lands where racialized “Others” or subalterns live. [...] Perceived notions of emptiness, wasteland, and void in the popular imagination have directly affected desert places and peoples, who often suffer environmental injustices like displacement, land and water contamination, and food apartheid. (Osuna and Tynan, eds., 2024, 1).

Although abstraction is at the heart of Lozano-Hemmer's visual language, it is often tempered with an embrace of humanity. Indeed, technology and, especially, artificial intelligence are often framed as contrasting the human, the artist is careful to avoid any associations of an art that could read as dehumanizing.

One of the most influential avant-garde texts from early in the twentieth century is Spanish philosopher José Ortega y Gasset's *The Dehumanization of Art* (1925), which defended modernist aesthetics that moved away from the human form. The author asked

Why is it that the round and soft forms of living bodies are repulsive to the present-day artist? Why does he replace them with geometric patterns? [...] [C]razes of this kind have periodically recurred in history. Even with prehistoric art we observe that artistic sensibility begins with seeking the living form and then drops it, as though affrighted and nauseated, and resorts to abstract signs (Ortega y Gasset 1968, 40).

The disgust of the human that Ortega y Gasset conveys is jarring. He celebrated this turn away from the representation of bodies by championing an avant-garde that "consider[ed] art as play and nothing else" and courted an "essential iron[y]," traits we see in spades in *Actual No. 1*. Ortega y Gasset's language of "dehumanization" reads differently today, however, not only because of a widespread recognition that the transatlantic slave trade and the genocide of Indigenous population groups in the Americas was premised on an exclusive definition of the "human" around those who were European and male, but because dehumanizing violence continues well into the present day. Lozano-Hemmer's most poignant statement to this effect is *Level of Confidence* (2015), a piece that employs facial recognition technology to commemorate the kidnapping and disappearance of 43 students from the Ayotzinapa school in Iguala, Mexico in 2014.

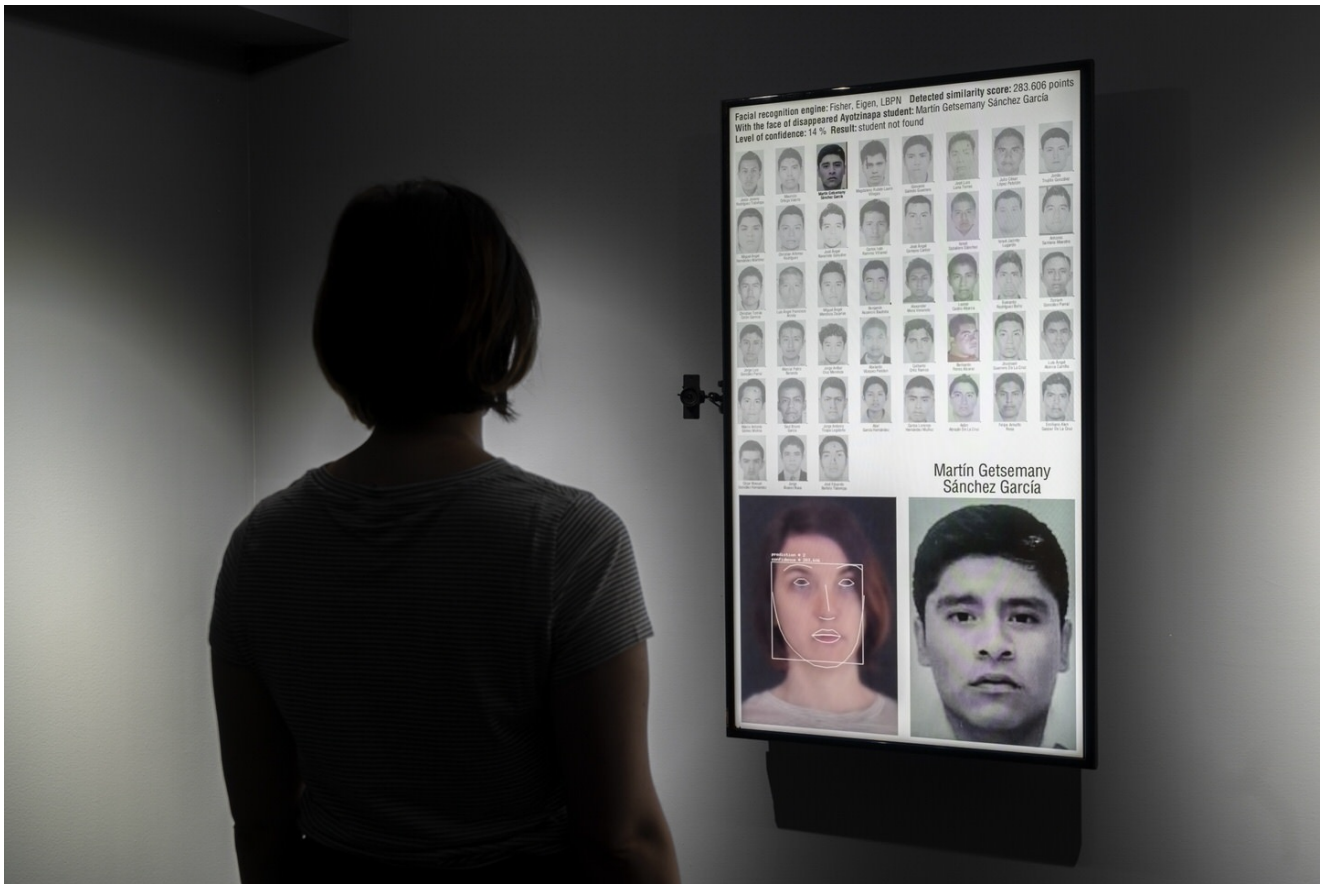


Figure 4. Rafael Lozano-Hemmer, *Level of Confidence*, 2015. As seen in *Rafael Lozano-Hemmer: Unstable Presence*, Musée d'Art Contemporain de Montréal, Montréal, Québec, Canada, 2018. Photo by Guy L'Heureux.

A spectator approaches a screen featuring black and white photographs of all the students organized into a grid and identified with each of their names. The system captures an image of the person's face and compares it those of all the victims to assess whether they might be one of the missing. As the process unfolds, the photograph of each student is positioned next to the spectator's, creating a haunting memento mori and eliciting profound empathy. It was always suspected that the students were victims of a mass murder, and their disappearances were eventually recognized by a truth commission appointed by the Mexican government as a "state crime." The facial recognition process is an exercise in futility, but the artist makes a point of staging "a relentless search for the students."^[3]

Border Tuner works to mitigate any possibility that the piece's vectorial formal elements may translate as an abstraction of the communities on either side of the border. During its run, intellectuals, musical ensembles, poets, activists, student groups, and more from Ciudad Juárez and El Paso activated the piece through structured programming and improvised presentations. Curators and scholars who visited to share their research (myself included) connected with local artists, writers, curators, professors, and others on both sides of the

border. The atmosphere was one of warmth and camaraderie. A few months later, the Covid-19 pandemic lockdowns would make those gatherings feel like part of a remote and longed-for past. Of the collection of photographs documenting the piece, the close-ups of people speaking into microphones or grouped together best capture *Border Tuner's* spirit.



Figure 5. Rafael Lozano-Hemmer, *Border Tuner / Sintonizador Fronterizo, Relational Architecture 23*, 2019. Bowie High-School / Parque Chamizal, El Paso / Ciudad Juárez, Texas / Chihuahua, United States / México. Photo by Mariana Yañez.

Writing in 1921, Maples Arce envisioned a future where technology would bridge the world in ways he could only conceive as positive. Almost a century later, Lozano-Hemmer's metaphorical bridges of unrestrained traffic (of light and sound) between Mexico and the United States felt like a once-in-a-lifetime event. Whereas Maples Arce's manifesto established a threshold to an electrified present based on the subjective sensations of the individual, Lozano-Hemmer reoriented the locus of aesthetic experience to the horizontal plane, making it relationally contingent. In so doing, he temporarily sutured the border, impressing on his public that circumstances could and should be different. With or without technology, other worlds are possible. They have to be.

Acknowledgements

This essay is adapted from Tatiana Flores, “Avant-Garde Revolutions: Rafael Lozano-Hemmer’s *Border Tuner*,” in *Border Tuner / Sintonizador Fronterizo*, edited by Michael Nardone and Edgar Picazo. Los Angeles: Inventory Press, forthcoming 2025. I am grateful to Michael Nardone and Edgar Picazo for their generous feedback.

Endnotes

[1] “Border Tuner / Sintonizador Fronterizo: Relational Architecture 23,” https://www.lozano-hemmer.com/border_tuner_sintonizador_fronterizo.php, accessed January 2, 2025.

[2] “Pulse Index,” https://www.lozano-hemmer.com/pulse_index.php, accessed January 7, 2025.

[3] “Level of Confidence,” https://www.lozano-hemmer.com/level_of_confidence.php, accessed January 8, 2025.

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