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After Darkness: Sense-Expansion and the Aesthetics of New Media

Black is not quite an object, but it does constitute a limit of experience.

—Sean Cubitt, *The Practice of Light*

If darkness begins where our eyes fail, where perceptions cannot be named and our bodies are numbed by biology, is new media the vanishing point in the gradual dissolution of all darkness, the ‘practice of light’¹ beyond light itself, the extension of our senses beyond the limits of the human body? I will begin by reflecting on this through three scenes that serve as a prologue and conceptual collage:

One

The visitor enters and finds empty walls: no altar, no figures to adore, no candles, no books of sacred words, no chairs to sit or kneel while praising the Christian god. The visitor is in an ex-Franciscan convent dating from the sixteenth century, today converted into a museum of contemporary art. The high ceilings, completely covered in white plaster, make her feel small, almost drowned by light, but the Spirit has flown and there is no trace of its presence. As she explores the space, she hears a subtle humming, combined with creaking sounds from the floor. She begins to feel dizzy, she cannot stabilize her gaze anywhere, for there is nothing to see. As a wave of nausea returns her to the entrance hall, a man in police uniform reminds her that she has signed a form

¹ Sean Cubitt, *The Practice of Light: A Genealogy of Visual Technologies from Prints to Pixels* (Cambridge, MA: MIT, 2014).

detailing the possibility of such disconcerting symptoms: her discomfort was the result of a sound installation that her ears could barely discern but her entire body, unaccustomed to the low frequencies of sound involved (17.5 and 38Hz), could only perceive in disarray. She is told she could leave the museum at any time if she wished to; an on-site paramedic is also there to offer help. Her perceptual response was intended and induced. Multimedia artist Mario de Vega conceived this installation as a means to probe the limits of perception and the consequences of seeking to stretch them. He sought to produce sound waves that for most people fall below the range of hearing – known as infrasound – perceptible through their general effects on the human body. By doing this he demonstrated the extent to which infrasound ultimately reproduces an effect of darkness: the subject's sentient boundaries seemed to dissolve in the confrontation with this dimension of the unperceivable.

Once her malaise has eased, she decides to continue touring the show, approaching a second room, a side wing to the main nave of the church. Here, an ephemeral form of audio visual madness awaits her, an hallucination provoked by design. An analogue sound system with sixteen speakers is integrated into the wall, amplifying the harmonic scale of 17Hz to +95 dB. This sound frequency is inaudible to humans, but the increased pressure allows it to be felt through vibration. The entire building subtly pulsates around her, but it is only the sensation of dislocated eyeballs that she feels; as they quiver they project ghostly forms. This time she decides to linger. Darkness is densely populated, she observes.²

² This is a fictional scene, inspired by accounts and chronicles of various visitors to De Vega's exhibition at Laboratorio de Arte Alameda (LAA) in Mexico City, entitled *SIN* (2013).

Figure 1. Mario de Vega, *SIN*, installation view, Laboratorio de Arte Alameda, 2013. Photo: Mario de Vega. Courtesy of the artist.

Figure 2. Mario de Vega, *SIN*, installation view, Laboratorio de Arte Alameda, 2013. Photo: Mario de Vega. Courtesy of the artist.

Two

Dino Buzzati's 1940 novel The Tartar Steppe relates the story of the young officer Giovanni Drogo, who leaves his mother's home after finishing at military school, and spends the rest of his life in a desolate fortress in the middle of the Tartar desert, sleeplessly waiting for the invasion of a barbarian horde. During his insomnia, one night he opens his window in search of the mountains that surround the fortress. All he sees is darkness and a moving shadow. Blinded by a world that resists visibility in the deep night, Drogo hears how sounds around him magnify. The novel thus trails into a description of the sonic textures of even the most minimal of movements in the solitary fortress. Minutes appear to stand still as he waits for the next noise, obscurity becoming a means to expand the perception of not only sound but time too. Unable to find repose, the blinded gaze gives way to a series of delocalized resonances. They keep Drogo's body awake, just as time seems to have frozen. Waiting in darkness becomes sensually arousing.

Today, this form of sensory-expanding darkness is on the wane, as visual and sonic technological prostheses penetrate deeper and deeper into all deserts. Think of Mexico's largest and most feared desert, that of Chihuahua, one of the driest places on earth, traversed by the Rio Grande and extending into the states of New Mexico and Arizona. In this landscape most hostile to the sustenance of human life, darkness itself becomes a further frontier of power and control. It is no longer a play of lights and shadows that the US border patrol search for; they look for all forms of 'invisible light': those waves of the electromagnetic spectrum that remain imperceptible to the human eye. That is to say, for bodies to become traceable as they attempt to cross the border, it is no longer their moving shadow that the United States authorities (and the civilian groups that support

them) trace. It is, rather, their mobile phones and body heat that they chase down. Drone-transported machines of vision populate the skies in this ancient environment, rendering human lives on the ground nothing but targets. Witnesses claim that these flying machines are often confused with the stars. Some cameras are also fixed, hidden in various parts of the desert by border agents and landowners. Their pictures are not directed but automatic, their gaze prosthetic. Through this desubjectivisation of sight, they navigate the shades of black. As they bring a post-human vision to the terrain, they capture seemingly hyper-real landscapes and bodies. Darkness becomes densely textured, infinitely detailed, and the figure of the immigrant also shifts or, rather, escapes its habitual frame.

Figure 3. Joana Moll, Still from *Move and Get Shot*, 2010. Courtesy of the artist.

Figure 4. Joana Moll, Still from *Move and Get Shot*, 2010. Courtesy of the artist.

Three

A close-up shot depicts a hand inserting three needle-like electrodes into the green produce of a prickly pear cactus, those savoury Mexican tunas. I do not know whose hand this is, but the scenario looks familiar. It takes place in another one of Mexico's deserts, south from Chihuahua, perhaps in the state of San Luis Potosi. Mexico is a land of deserts and mountains. The soil is often poor, food scarce, water precious. Yet somehow, often unfathomably, life is everywhere. When I found these images, in a video by experimental artist Ariel Guzik, I recognised this desert.³ As the camera follows the thorned topographies of its plentiful cacti, they blend with a series of cables that connect them to an alluring instrument: the *Plasmaht Lute*, contrived by this iridologist and musician (2011).

³ Ariel Guzik and Laboratorio de investigación en resonancia y expresión de la naturaleza A.C., *Laúd Plasmaht* (Mexico, 2011), <https://vimeo.com/31877773> [Accessed March 21, 2017].

Delicately carved by a visibly virtuosic luthier, this instrument harnesses the acoustic properties of cacti, using electromagnetically sensitive strings and a mahogany chamber to convey their internal rhythms – otherwise imperceptible to humans. The instrument is a fertile source of the most varied of sounds, and this fecundity is evoked in the form of the female sexual organ that it bears. As depicted in this video, the Plasmaht Lute stands in seeming solitude in the middle of the desert, making the flora sing in unison as time slowly unfolds. The genitalized harp is able not only to perceive and translate into sound the shifting magnetism of plants connected to it via electrodes, but also to capture, and similarly make audible, through the delicate vibrations emanating from its cords, the subtle electromagnetic currents and electric signals shed by the thorns of certain cacti. The acoustic result is hypnotic. The camera seems not to know where to look; the instrument speaks for the most closely interconnected and rapidly shifting sources of sonority. This invisible instrument-musician, it seems, cannot be captured by light. When the video closes with a moonlit sky, we are left to ponder the literally obscure indecipherability of these musical vibrations. We are also reminded that ‘human culture is inextricably enmeshed with vibrant, nonhuman agencies’, that it is all too difficult to learn how to listen or how to see.⁴

⁴ Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010), 108.

Figure 5. Ariel Guzik and Laboratorio de Investigación en Resonancia y Expresión de la Naturaleza (2003-2005). Photo: Marcela Armas (2009). Courtesy of the artist.

Figure 6. Ariel Guzik and Laboratorio de Investigación en Resonancia y Expresión de la Naturaleza, 2010. Courtesy of the artist.

Introduction: On dark ecologies

Neosensory is a Houston-based company of a strange kind, selling not objects, but sensory experiences. Its founder, neuroscientist David Eagleman, believes that humans are 'trapped in a very thin slice of perception', as our brains have not evolved to perceive either the microscopic or the macroscopic world, infrared or ultraviolet light, gamma rays or X-rays, as the brains of other creatures have.⁵ Eagleman is likely to remind you, for instance, that as you are reading this text thousands of mobile phone conversations are passing through your body without you being able to perceive them. Millions of sounds and pictures too are out there, without you or I noticing. Despite all of these, we tend to take the surrounding world that is available to our senses, 'our *Umwelt*,' as the totality of the 'objective reality that's out there'.⁶ Eagleman's company stands against this arguably constrained world, seeking to expand the limits of perception beyond what has been historically possible among humans. As such, the experiences it commercializes combine advanced science with some of the most impossible of human desires. By means of a sophisticated belt, for instance, Neosensory can transform human speech into tactile vibrations that, over time, the deaf can begin to understand. These types of vibrations – which the belt directly dispatches to one's nervous system – can also be sourced from the emotions of a human collective or even from the capricious drifts of financial markets. This company thus allows us to connect our nervous system to amalgams of data that may come from the sincerest as well as the most inert of places. By expanding our perception of the unknown, it situates us closer to 'enhanced' life, and to death on a mass scale. In its

⁵ David Eagleman, "Can We Create New Senses for Humans?," May 2015, <http://www.ted.com/talks/david_eagleman_can_we_create_new_senses_for_humans?language=en> [Accessed March 21, 2017]. The company's website is: <https://neosensory.com/>.

⁶ Eagleman.

everlasting meditative silence, the brain transforms this information into sensory experiences, and eventually some form of meaning, just as it does with those colours and sounds than the brain perceives without the aid of this kind of prosthesis. Neosensory advances also promise a future of 360-degree vision and nervously-led (unconscious?) financial speculation. What is left of and for darkness under these technoscientific conditions? Furthermore, how is art to reflect upon and respond to neuroscientific expansion of the realm of perceivable phenomena?

The innovations of this neuroscientific firm are neither fully novel, nor do they come without a dense history of past longings and propositions in various interconnected disciplines, including media studies and media ecology. Marshall McLuhan defines media as 'extensions of man' that have not only extended 'our bodies in space' during the mechanical age, but have also extended our nervous system, with the rise of the electronic era.⁷ For McLuhan, these extensions do not alter our bodies in any linear way; rather, they bring radical transformations to our relationship with time and space. In the case of new, computer-enhanced media, space tends towards compression and collapse, while time takes mind-numbing speed. Furthermore, the prosthetic function of media is not only geared towards the replacement of 'known' sensations, in the case, for instance, of a diseased sensory organ, but also towards the addition of new sensations and their intensification into uncertain territories. In 1960 J.C.R. Licklider wrote an influential article entitled 'Man-Computer Symbiosis', which 'proposed that an interactive digital computer

⁷ Marshall McLuhan, *Understanding Media: The Extensions of Man* (London: Routledge-K. Paul, 1964), 6, 3. Today, the last frontier in the extension of man (and woman), leading to their probable substitution, is 'the externalization of the mind' and the production of artificial consciousness, a subject receiving much attention among today's neuroscientists and philosophers of mind. See Lev Manovich, 'Visual Technologies as Cognitive Prostheses: A Short History of the Externalization of Mind,' in *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future*, ed. Marquard Smith and Joanne Morra (Cambridge, MA-London: MIT, 2006), 203.

can act as a kind of metaprosthesis that augments our memory, perception, decision making, and other cognitive operations'.⁸ It has been argued that this is precisely the direction that digital technology has taken in recent decades, particularly regarding the use of the computer as a prosthesis for the mind.⁹ For Bennet such developments endorse the ethical calling 'to devise new procedures, technologies, and regimes of perception that enable us to consult nonhumans more closely or to listen and respond more carefully to their outbreaks'.¹⁰ The plasticity of the brain enables these possibilities.¹¹ However, the ethical and political consequences of this impulse are less certain: we cannot know where this 'expended', 'heightened' or 'augmented' perception is leading us to, nor can we naively announce or celebrate the purported birth of the post-human, as some scholars have done.¹² Drawing upon the work of French archaeologist André Leroi-Gourhan, a number of theorists, including most notably Bernard Stiegler, posit that technological prostheses are not mere extensions of the human body; they constitute us as human. In this view, the human has never been without technology; our relationship with technology shapes our condition.¹³ While the pertinence of announcing the rise of a post-human condition is therefore questionable, it is clear that since at least the 1990s we have been witnessing the decline of certain strands of humanism positing a separation between the human and technology, on the one hand, and between human and nature, on the other.

⁸ Manovich, 'Visual Technologies as Cognitive Prostheses: A Short History of the Externalization of Mind,' 204. See J.C.R. Licklider, 'Man-Computer Symbiosis,' *IRE Transactions on Human Factors in Electronics* 1 (1960): 4–11.

⁹ Manovich, 'Visual Technologies as Cognitive Prostheses: A Short History of the Externalization of Mind.'

¹⁰ Bennett, *Vibrant Matter*, 108.

¹¹ Stemming from neuroscience, the notion of neuroplasticity or brain plasticity refers to the adaptability and mutability of the brain resulting from learning, behaviour or the environment at all stages of human development. Catherine Malabou has developed an entire philosophical thinking around this notion in a number of books, including *What Should We Do with Our Brain?* (New York: Fordham Univ Press, 2009).

¹² See Donna J. Haraway, 'A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century,' in *Simians, Cyborgs and Women: The Reinvention of Nature* (London: Free Association, 1991), 148–81.

¹³ Bernard Stiegler, *Technics and Time*, trans. Stephen Barker, Richard Beardsworth, and George Collins (Stanford, CA: Stanford University Press, 1998), 152–53.

We have entered what Timothy Morton calls the age of 'dark ecology', or ecology without nature, heir to the cybernetic episteme.¹⁴

Dark ecology is a form of ecological thinking in which Nature is nowhere to be found. Morton suggests that true ecological thought – 'the thinking of interconnectedness'¹⁵ – presupposes suspending the (Romantic) idea of Nature as an outside. For him, calls to 'rescue' Nature, treat it with 'respect' or otherwise situate it on a pedestal of sorts serve a similar function to the notion of Woman for patriarchy, a form of diminishing, fetishizing and 'sadistic admiration'.¹⁶ Yet the consequences of this attempt to suspend Nature from the ecocritical imagination are not without irony. An ironic position has actually become intrinsic to dark ecology, which may be understood as an 'ecological aesthetics' that 'puts hesitation, uncertainty, irony, and thoughtfulness back into ecological thinking.' Tying this discussion to a larger reflection on darkness, Morton argues that:

The form of dark ecology is that of noir film. The noir narrator begins investigating a supposedly external situation, from a supposedly neutral point of view, only to discover that she or he is implicated in it. The point of view of the narrator herself becomes stained with desire. There is no metaposition from which we can make ecological pronouncements.¹⁷

¹⁴ Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA-London: Harvard University Press, 2007), 181. For a discussion of cybernetics along these lines see Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (Chicago, IL: University of Chicago Press, 2010); Seb Franklin, *Control: Digitality as Cultural Logic* (London-Cambridge, MA: MIT, 2015).

¹⁵ Morton, *Ecology without Nature*, 184.

¹⁶ Morton, 5.

¹⁷ Timothy Morton, *The Ecological Thought* (Cambridge, MA: Harvard University Press, 2012), 16–17.

This interconnected or relational rendering of the field of enunciation proper to dark ecology necessitates an ontological flattening of self and world, mind and being, nature and culture. A dark ecology, in other words, dwells in monism, while making us aware of the difficulties a monistic position entails. The basis of such flattening springs from a radical sense of relationality in which self and world continuously produce each other. The resulting epistemology may be described from a pragmatist perspective as a 'performative' view of being and world, focused on the functional interconnectedness of systems and the study of their interdependence in order to understand any meaningful idea of action or agency. Although some of these propositions may sound elusive, following the specific trajectories of how certain systems co-produce each other and influence their actions via feedback unveils the value of this (darkened) ecology.

There is, however, another notion of darkness that interests me here, related to that which lies beyond perception — understood as the 'process of becoming aware of physical objects [and] phenomena through the senses' (OED). Here, darkness refers to a moment or condition in which the senses fail, becoming confused, numbed or simply unable to understand 'messages' that are, purportedly, out there. This is the darkness of the blind, but also the darkness of those suffering from deafness, anosmia (the loss of the sense of smell), analgesia (the inability to feel pain), and ageusia (the inability to taste). This form of darkness also describes that which falls outside 'normal' fields of vision and hearing, including the various types of invisible light of the electromagnetic spectrum and the generally unperceivable waves of infra and supersound. New media in the arts has continuously moved towards the exploration of these dimensions of darkness, often following a seeming imperative to expand the perception of stimuli that cannot be easily

deciphered by the human sensorium. Projecting this tendency towards a future that has already reached us, Jonathan Crary posits that visibility will be increasingly 'situated on a cybernetic and electromagnetic terrain' which will not depend only on the human eye, and in which 'abstract visual and linguistic elements coincide and are consumed, circulated, and exchanged globally.'¹⁸ This leads me to suggest that a reflection on (perceptual) darkness today and its shifting limits must be brought to the terrain of new media: the extensions of *(wo)man-computer symbionts*.¹⁹

As we embrace this reflection, a difficult line must be traced between an ecological interconnectedness that defines all beings – according to a cybernetic epistemology – and the possibility of identifying the formation of new (finite) assemblages or symbionts. The problem of limits or boundaries – and the accompanying notion of 'finitude' – is indeed one of the most critical and difficult to address as we analyse the so-called crisis of humanism. This discussion blurs the 'old' boundaries between human and animal, body and mind, the real and the virtual, the physical and the non-physical.²⁰ Yet what these various dissolutions of boundaries entail is rarely clear or dissociated from reductionist views of what 'normal' humans and 'normal' bodies look like, or sense. Vivian Sobchack powerfully signals this tendency when she critiques the appropriation of the notion of prosthesis in contemporary philosophy, with concepts such as 'prosthetic consciousness' and 'prosthetic memory'.²¹ For her, this metaphoric appropriation of 'the prosthetic' not

¹⁸ Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA-London: MIT Press, 1990), 2.

¹⁹ I propose this term to expand Licklider's terminology and demarcate myself from Haraway's enthused approach to cyborg politics. See Haraway, 'A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century.'

²⁰ See Haraway, 153.

²¹ Vivian Sobchack, 'A Leg to Stand On: Prosthetics, Metaphor, and Materiality,' in *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future*, ed. Marquard Smith and Joanne Morra (Cambridge, MA: MIT, 2006), 19.

only tends to position non-prosthetic bodies as the norm, but often does this in full disregard of the actual experiences of those who rely on mechanical prostheses to go about their everyday life. Living with a prosthetic left leg herself, she writes, '[w]hen I put my leg on in the morning, knowing that I am the one who will give it literal (if exhaustible) vitality even as it gives me literal support, I don't find it nearly as seductive a matter...as do some of my academic colleagues'.²² This comment therefore invites us to continue to interrogate the tensions between a cybernetic effort to study all processes of control and communication between animal, human and machine in exactly the same terms and a humanist worldview in which this ontological flattening of living and non-living worlds returns little meaning.

Yet, rather than being understood as prostheses or appendages 'added' to a human body, sense-expanding interfaces often rely on the production of highly interconnected systemic wholes involving both human and non-human agents. Here, perception not only becomes a recursive mechanism dependent upon continuous feedback loops between a perceiving system and its environment, but also a process of co-determination between both.²³ This leads Eagleman to argue that, although humans have not evolved to listen to certain sounds or look at certain forms of light, the development of peripheral devices to capture their signals and feed them into the brain may unveil an enriched or expanded form of reality.²⁴ Such a view has been arguably demonstrated by feeding 'tactile' and 'aural images' to blind people, both of which respectively allow them to decipher the visuality and positionality of certain objects by

²² Sobchack, 17.

²³ Andy Clark, 'Re-Inventing Ourselves: The Plasticity of Embodiment, Sensing, and Mind,' *Journal of Medicine and Philosophy* 32, no. 3 (2007), 271; Francisco J. Varela, Eleanor Rosch, and Evan Thompson, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1993), 205.

²⁴ Eagleman, "Can We Create New Senses for Humans?"

means of vibrating and auditory patterns. Crucially, however, this process of sense expansion is radically individual, unfolding at a different pace and in different directions according to the subjects involved. Furthermore, numerous acts of translation and erasure occur in the process, just as they occur when temperature becomes visible in thermal photography and the electromagnetism of a rock becomes audible to the human ear. In these series of perceptual experiments, sense expansion comes to depend as much on technoscientific acumen and neurological plasticity as it does on the linguistic and aesthetic strategies used to codify the unperceivable. One could therefore argue that a true 'dance of agency' – to use Andrew Pickering's phrase – organizes the aesthetic possibilities of (ecological) new media seeking to enrich or transform our sensual worlds.²⁵

Vibration and synaesthesia in Mario de Vega

Despite my suggestion above that we should understand new media in terms of a search for perceptual expansion, it has been defined in almost as many ways as the number of theorists who have approached this subject. This complex and various set of practices, technologies, and languages resists any sense of permanence or equilibrium. Michael Rush associates new media with the rise of new forms to represent and manipulate time, a process begun by photography and leading to multiple aesthetic attempts to capture, reconfigure, and create variations of time lapses.²⁶ For Lev Manovich, we must instead locate the computer and its convergence with the cinematic tradition at the core of new media art. He consequently defines new media as a series of practices in which numerical or digital processes become distinctively involved in the production, distribution, and

²⁵ Pickering, *The Cybernetic Brain*, 319.

²⁶ Michael Rush, *New Media in Art* (London: Thames & Hudson, 2005), 12.

storage of images, image sequences, sounds, and texts.²⁷ Hansen, in turn, believes that new media must be defined as thoroughly post-cinematic, for it produces a break with the 'cinematic condition of [spectatorial] immobility' and situates, instead, the body as the affective frame and material basis of virtual worlds.²⁸ Emphasizing novelty, these definitions lend less attention to continuity than change. Yet I would like to suggest that one can identify a sustained continuation of earlier aesthetic intention in the language of new media. This pertains to the continuation of the romantic fascination with invisible worlds. With this view, I contest Kevin T. Dann's suggestion that '[t]he two-centuries-old Romantic call for new ways of seeing, and with them, new ways of being, has stagnated'.²⁹ The Romantic refusal to limit perception to that which is immediately 'available' to the senses is, by contrast, everywhere present in new media art. This presence has reawakened the old Romantic fascination with synaesthesia, the joining of the information of one sense by the perception of another, which is both a perceptual condition and a basis for metaphor.³⁰

This synesthetic impulse is what first calls my attention in the two installations by Mario de Vega that I evoke in the opening scene of this essay. Part of the artist's 2013 exhibition at Laboratorio de Arte Alameda entitled *SIN*, these works have been described by the artist as part of a research into 'invisible fields', as well as an attempt to 'materialize invisible things', 'things that surround us and for whatever reason humans are unable to

²⁷ Lev Manovich, *The Language of New Media* (Cambridge, MA: MIT Press, 2002), 86.

²⁸ Mark B. N. Hansen, *New Philosophy for a New Media* (Cambridge, MA: MIT Press, 2004), 12.

²⁹ Kevin T. Dann, *Bright Colors Falsely Seen: Synaesthesia and the Search for Transcendental Knowledge* (New Haven, CO-London: Yale University Press, 1998), x.

³⁰ Dann, 16.

codify'.³¹ In this case, it is infrasound that the artist 'codifies' by using an amplifier that not only makes it roughly audible, but also touchable, through vibration, and visible, via hallucinatory experience. Entitled *NODOS* (2013), the first of the two technically complex sound installations involved an analogue system, customized for the main nave of the exhibition space, yet invisible to the visitors' eyes. It emitted a sinus tone in the frequency range of thirty-nine Hertz, which in this case was a harmonic of the exhibition hall's fundamental resonant frequency. As Daniela Silvestrin explains,

the dimensions of a room define its lowest resonant frequency. This frequency and all its harmonics (that is, multiples of it) are also called "room modes": When a room is forced into resonance vibrations through input of acoustic energy at one of its room modes, these sound waves will bounce between the room's opposite boundaries in a kind of perpetuum mobile loop. They thereby create standing waves as a result of interferences, or superimpositions, of waves traveling in opposite directions, and turn the room into a resonant box. The acoustic waves generated by de Vega's system, rolling back and forth through the church's main nave, were therefore causing the structure of the whole building to oscillate and vibrate, creating a deep hum.³²

³¹ Interview Mario de Vega, interview by Oleg Khardatsev and Zhanna Guzenko, 27 February, 2015 <<https://vimeo.com/134540991>> [Accessed 17 March, 2017]. Original interview in English.

³² Daniela Silvestrin, 'On the Potential for Change. The Play of Forces in the Work of Mario de Vega,' in *Energies in the Arts*, ed. Douglas Kahn (Cambridge, MA: MIT Press, 2018). See also Daniela Silvestrin, 'Challenging Perception."Sin": The First Solo Exhibition of Mario de Vega,' *Digicult*, September, 2013, <<http://www.digicult.it/news/challenging-perception-sin-the-first-solo-exhibition-of-mario-de-vega/>>. [Accessed May 29, 2017].

Alejandro Gómez Escorcía's description of his experience visiting the exhibition evokes the feeling of the XVIth-century's building's 'flinching' (*se estremece*) with fear: 'sobre la nave, tus pies captan un látigo invisible que se sacude por debajo de la duela' [at the nave of the ex-chapel, your feet sense an invisible whip that is shaken under the wooden floor].³³ Accompanying this movement, an irregular, aleatory hum, which at times felt 'particularly intense', filled the space. Although the system of voltage oscillators, speakers and amplifiers of electric power remained invisible to the spectator, a text on the wall explained that the interface was only being used at a quarter of its capacity, leading him or her to imagine the building crumbling upon their head, should someone decide to increase the system's power. For De Vega, the aesthetics of sound are indeed intimately tied to risk, which demonstrates sound's heightened capacities to awaken and perhaps even expand – or curtail, via damage or injury – our perceptual worlds. Furthermore, De Vega conceives of sound as

un material, una piedra o una madera o cualquier otro volumen. Un fenómeno tridimensional que puede ser manipulado en su morfología y que tiene una preponderancia peculiar en la forma en la que percibimos el mundo, tiene una fuerza mayor que incluso la visualidad. Todavía tenemos la facultad de si no queremos ver algo no lo vemos, pero no podemos no escucharlo, porque el sonido o el fenómeno de escucha no es sólo a partir del oído, y esa es la parte que me interesa más.

³³ Alejandro Gómez Escorcía, 'Mario de Vega: Vida y muerte en el Arte Alameda,' *Textos A.C.*, July 2, 2013, <<https://textosac.wordpress.com/2013/07/02/mariodevega/>> [Accessed March 17, 2017].

[a material, like a rock a piece of wood or any other volume. It is a three-dimensional phenomenon that can be modified in its morphology and has a particular preponderance in the way in which we perceive the world; it has even a greater force than visuality. If one does not want to see something, one has the faculty not to, sound or the phenomenon of hearing, however, cannot be avoided, as one does not listen with one's ears only, and this is what interests me.]³⁴

As these words suggest, De Vega understands synaesthesia not as an epiphenomenon of sound but as intrinsic to the aural experience, an aspect that remains largely unrecognized. We listen with all of our senses, our entire body. Listening thus becomes reconceptualised as a total experience that can neither be bracketed nor fully controlled individually. We are radically vulnerable to sound, exposed, and for, the artist this remains understudied in discussion of this medium.

If *NODOS* unfolds as a result of the intensification of electromagnetic currents, *CREDO* (2013), an accompanying piece in the same show, explores the aesthetics of infrasound and the conversion of (unperceivable) sound into vision. Installed in an empty white cube, this piece consists of a 1200 x 240 x 100 cm concrete wall in which sixteen 18" speakers have been embedded. On top of them, an inscription in Latin, taken from Jeremiah 19:3, reads: *haec dicit dominus exercituum, deus isr ecce ego inducam damnum super locum istum, ut omnis qui audierit erit attonitus* [Thus says the Lord of hosts, the God of Israel: Behold, I am bringing such disaster upon this place that the ears of

³⁴ Alejandra Delgado Flores, 'Mario de Vega: "El sonido tiene una fuerza mayor que la visualidad,"' *Artishock. Revista de Arte Contemporáneo*, December 9, 2016, <<http://artishockrevista.com/2016/12/09/mario-de-vega-el-sonido-tiene-una-fuerza-mayor-que-la-visualidad/>> [Accessed 12 January, 2017].

everyone who hears of it will tingle (ESV)]. Deployed over the entire upper fringe of the wall, the inscription forces the spectator to move from one side of the room to the other as he or she tries to decipher it, even if the source and meaning of the phrase remains elusive. The confluence between the high-tech speakers and a seemingly ancient textuality fills the room with a sense of unknowability, accompanied by the spectral presence of a distant, unrecoverable past. Much of what was happening in this room was indeed invisible, and only barely audible: the perfectly aligned speakers were part of a bass reflex system made to emit the low sound frequencies of 17.8 and 35.6Hz. These combined frequencies result, according to critic Alejandro Gómez Escorcía, in 'un chiflido vibratorio parecido al de un horno de microondas' [a microwave-like vibrating whistle].³⁵ However, the first of these frequencies falls below the 'normal' limit of human hearing (20Hz). Since the ear becomes gradually less sensitive as sound frequencies decrease, for humans to perceive infrasound the acoustic pressure must be augmented. Affecting the entirety of the body, and leading to possible damage in the inner ear, this process may cause vertigo, ear pain, nausea, giddiness and even visions. These effects result from the heightened pressure of the sonic waves, a process that sets the body's internal organs into vibrating motion. The externally driven syncopated rhythms of the eyeballs, lungs, ear and body's intestines fully distort the conscious perception of corporeal unity and control.³⁶

Critic Verónica Gerber suggests that De Vega continues Antonin Artaud's sonic explorations, searching in particular to confront the spectator with his or her own

³⁵ Gómez Escorcía, 'Mario de Vega: Vida y muerte en el Arte Alameda.'

³⁶ Jürgen Altmann, 'Acoustic Weapons - A Prospective Assessment,' *Science & Global Security* 9 (2001): 180–82.

vulnerability.³⁷ In the first manifesto of the theatre of cruelty, Artaud argues that the 'necessity of acting directly and profoundly on the sensitivity through the organs makes it advisable, from the viewpoint of sound, to seek out absolutely new qualities and vibrations...qualities which contemporary musical instruments do not possess'.³⁸ According to a critic, Artaud's interest in sound oscillates between the material and the metaphoric, stressing in particular the notions of vibration and contagion, while actively undermining the relationship between sound, voice, and meaning.³⁹ The use of glossolalist utterances in Artaud's theatre of cruelty, for instance, seeks 'completely to disable the mechanisms of meaning' while exalting the affective and material qualities of humanly produced sound.⁴⁰ Reinstating a relationship between noise and nausea that springs from their common etymological root (Lat. *nausea*), Artaud also explores the effects of 'sonic shocks' on the subject and the 'decisive' and 'dangerous' possibilities that can be felt beyond their tremors.⁴¹

Artaud's treatment of sound evokes a mysticism that is also present in De Vega's work, and which is heightened, in the case of *NODOS* and *CREDO*, by their unusual location. Even beyond the reference to Jeremiah, Gerber points out that one cannot oversee 'la connotación demoniaca, blasfema incluso, de una iglesia vacía, vibrante' [the demonic, even blasphemous connotation of an empty and vibrating church].⁴² Yet this also signals some of the many differences between De Vega's and Artaud's treatment of

³⁷ Verónica Gerber Bicecci, 'Sinestesia,' *Letras Libres*, August 1, 2013, <<http://www.letraslibres.com/mexico-espana/sinestesia>> [Accessed January 7, 2017].

³⁸ Antonin Artaud, "El teatro de la crueldad. Primer manifiesto (1932)," in *La escena moderna. Manifiestos y textos sobre teatro de la época de las vanguardias*, ed. José A. Sánchez (Madrid: AKAL, 1999), 204.

³⁹ Frances Dyson, *Sounding New Media: Immersion and Embodiment in the Arts and Culture* (Berkeley, CA: University of California Press, 2009), 36.

⁴⁰ Dyson, 36.

⁴¹ Dyson, 35.

⁴² Gerber Bicecci, 'Sinestesia.'

sound, such as the former's primary interest in non-human sonic sources, together with his use of technology in order directly to intervene in and manipulate the physicality of sound. Compared to the austerity of Artaud's theatrical and sonic experiments, De Vega's installations are distinctly imbued in a technoscientific apparatus demanding enormous technical acumen and control. The place left for the unknown here lies less in the qualities and characteristics of sound than in its effects on perception. The 'speculative' synesthetic effects that the intervention seeks to trigger vary with every individual, and may not even take effect in the museum, but several hours after the visit. Gerber mentions 'un extraño júbilo y ligero dolor de cabeza al día siguiente (de la visita)' [a strange sense of elation and a slight headache the day after (her visit)]. The 'side effects', she adds, could have been much worse.⁴³

The forms of synaesthesia induced by De Vega's works also carry the highly subjective qualities of those experiences of sensory association and confusion that fascinated Romantic poets, yet there are important differences between past and present uses of synaesthesia in the arts that ought to be mentioned. Synaesthesia in Romantic and, later, Symbolist poetry does not primarily evoke an organic phenomenon, but an imaginary or mystical state. Dann recounts how Rimbaud, *maudit* and *voyant* poet, 'tried just about every conceivable method to plunge his mind into the unknown, which for French artists and intellectuals was a place of refuge from the oppressive weight of the materialist and positivist philosophies that seemed to be crushing European culture'.⁴⁴ In his poem 'Voyelles' [Vowels], Rimbaud (1883) indulges colour hearing as he depicts the letter A as 'noir corset velu des mouches éclatantes/Qui bombinent autour des puanteurs

⁴³ Gerber Bicecci.

⁴⁴ Dann, *Bright Colors Falsely Seen*, 22.

cruelles,/Golfes d'ombre' [black fur-clad brilliant flies/Clustering round every cruel stench,/Defiles of darkness].⁴⁵ Baudelaire goes ever further from the confusion of the senses towards mystical experience when, in a conversation with the Devil in 'Tout entière' [Completely One], he pronounces a 'métamorphose mystique/De tous mes sens fondus en un!' [mystic metamorphosis/Of all my senses joined in one!], a condition triggered in this case by the sight of a loved one.⁴⁶ A similar association between synesthesia and erotic desire is present in Percy Bysshe Shelley's 'Alastor' (1815) and 'Epipsychidion' (1821). Here, once again, the imaginary construction of synesthetic metaphors, resulting from the mystifying effects of intense desire and communion, excites the poet. At the turn of the nineteenth century, the synesthetic 'disordering of the senses' became linked with a search for transcendental knowledge and even a form of elevated consciousness. This view persisted, much later, in the writings of Wassily Kandinsky, as well as among 'adherents of the various magical, Spiritualist, Theosophical, and other occultist worldviews'.⁴⁷

In *NODOS* and *CREDO* the speculative production of synesthetic effects is, by contrast, thoroughly mechanic. While the quote from the Bible in the latter cajoles the spectator into an esoteric atmosphere, once one understands the meaning of the text, it reads more like a warning than as a point of entry into the occult. Through the increased pressure of sonic waves, the expectant witness of De Vega's work is induced into a synesthetic condition – which might not only bring discomfort to her body but may even damage it – without her mind becoming consciously involved in the process. Therefore,

⁴⁵ Arthur Rimbaud, *Collected Poems*, trans. Martin Sorrell (Oxford: Oxford University Press, 2001), 135.

⁴⁶ Charles Baudelaire, *The Flowers of Evil*, trans. William Aggeler (Fresno, CA: Academy Library Guild, 1954), <<http://fleursdumal.org/poem/135>> [Accessed March 21, 2017].

⁴⁷ Dann, *Bright Colors Falsely Seen*, 47.

while De Vega's physical induction of synaesthesia does continue the Romantic and avant-garde curiosity about invisible worlds, De Vega's installations are better described as part of what I would consider as an ongoing weaponization of art than as a dorsal return to a Romantic sensibility.⁴⁸ Indeed, this sensibility seems so irretrievably lost that the search for it no longer relies on people's powers of imagination. Today this sensuous memory is understood to lie in the body as a machine. Ties between synaesthesia and transcendental knowledge are nowhere to be found in these new artistic expressions. By contrast, we are confronted with a technological sublime and a mystical pastiche.

Darkness and improvisation in Rogelio Sosa's feedback music

New media focusing in particular on the aesthetics of sound has engaged for decades a dimension of the unknown and the unperceivable that combines both human and non-human agency with elements of chance, namely, improvisation. According to Manuel Rocha Iturbide, from the early days of electronic music in the country in the 1970s, this form of creation was characterized by its improvisatory qualities, if only because the *Moog* and *Buchla* synthesisers available in the first laboratory of electronic music, at the National Music Conservatory, did not have stable parameters.⁴⁹ Few recordings remain of those early experiments, however, since at that time both institutions and composers placed little interest in this medium. For Rocha Iturbide, the relative neglect of experimental music among academic musicians also ended up heightening the improvisatory qualities

⁴⁸ On the notion of 'dorsality,' see Wills *Dorsality: Thinking Back Through Technology and Politics* (Minneapolis, MN: University of Minnesota Press, 2008).

⁴⁹ Manuel Rocha Iturbide, 'El arte sonoro en México,' *artesonoro.net*, October 26, 2007, 3, <<http://www.artesonoro.net/artesonoroglobal/ArteSonoroMexico.html>> [Accessed 6 January, 2017].

of sound art, as it displaced this practice towards typically interdisciplinary and eclectic spaces, from experimental theatre (in the work of Alejandro Jodorowsky and Juan José Gurrola) to contemporary art (in the work of Ulises Carrión and Felipe Ehrenberg). An example of these interdisciplinary formations is 'Música de Cámara' [Chamber Music] (1984), an artist collective that brought together poet Ángel Cosmos, composer Arturo Márquez and photographer José Díaz. Música de Cámara's electroacoustic performances combined photography, 'games of chance' and music, performing on one occasion a concert with the sounds produced by the shooting of a photographic camera. In the 1980s, visual artist Gabriel Macotela similarly crossed the visual and the aural by producing a series of metallic 'electronic sculptures'. These were known as metallophones and were played by various experimental composers, including Antonio Russek and Vicente Rojo Cama, both of whom have also developed a rich series of electroacoustic works.⁵⁰ With the rapid expansion of possibilities and spaces for the practice of sound and electronic art in Mexico in the 1990s, improvisation in this media took a wide array of different forms and directions, through, on the one hand, experimental and electroacoustic music, and on the other, sonic actions and installations. Today new strategies of improvisation and non-human composition continue to grow and diversify, as computer algorithms become central players in musical practice. However, Rocha Iturbide argues that Mexican sound artists remain more interested in Low Fi rather than High Fi, privileging live improvisation over 'algorithmic performance'.⁵¹

⁵⁰ Rocha Iturbide, 'El arte sonoro en México.'

⁵¹ Jennifer Menegon, 'Entrevista a Manuel Rocha Iturbide,' *Asociación de arte electrónico y EXperimental*, November 8, 2014, <<http://arteelectronico.net/entrevista-manuel-rocha-iturbide/>> [Accessed January 8, 2017].

According to Thomas B. Holmes, the live performance of improvised electronic and electroacoustic music dates back to the development of vacuum tube (or valve) amplifiers in the 1950. Since then, he writes, improvisation has been 'part of the experimental spirit that makes up the soul of electronic music. It challenges players and listeners alike to discard tradition'.⁵² Yet the relationship between tradition and improvisation is more complex than these words suggest. The latter is only possible in relation to a series of rules or parameters, and this is what distinguishes it from sheer chance. As a critic argues, 'improvisation is not simply creative singularity, but is rather a structured practice mediated by a vast multiplicity of absent traces: adopted idioms, cultural practices, and traumatic memories'.⁵³ Along the same lines, discussing the tenets of improvisation among jazz musicians, Paul Berliner stresses the importance of certain musical and gestural conventions as well as the recurrence of knowledge inherited from one's musical mentors.⁵⁴ Yet in contrast to live improvisation within traditional musical genres, improvisation in electronic music is tied to so many nodes of what could be described as non-human agency – stemming from the materiality of the electronic equipment and related acoustic phenomena, such as feedback – that it may be said to involve, willingly or not, increased loss of control. The characteristics of sound, and the way that its perception depends not only upon its source but also upon the atmosphere and architecture in which it is produced, make electroacoustic improvisation a true 'dance of agency', evoking the interconnectedness of dark ecologies that I discuss above, alongside

⁵² Thomas B. Holmes, *Electronic and Experimental Music: Pioneers in Technology and Composition* (London-NY: Routledge, 2002), 232.

⁵³ Michael Gallope, 'Is Improvisation Present?' in *The Oxford Handbook of Critical Improvisation Studies*, ed. George E. Lewis and Benjamin Piekut, vol. 1 (Oxford: Oxford University Press, 2016), 155.

⁵⁴ Paul Berliner, *Thinking in Jazz: The Infinite Art of Improvisation* (Chicago-London: University of Chicago Press, 1994), 63.

the fascination within cybernetic and electronic art for the agency of matter.⁵⁵ Writing about the role of improvisation in electroacoustic music, David Borgo argues that, given the new role of computers and other sonic technologies in both composition and performance, 'musicians are entering into increasingly immersive relations with their instruments and forming increasingly complex man-machine assemblages'. This leads him to suggest that, in the analysis of this music, 'we are better served by notions of interagency and interactive contingency between heterogeneous sources of activities than with the dual concept of human action as intentional and creative and material and machine activity as inert, repetitive or rule-following'.⁵⁶

Rogelio Sosa stands out as one of the young Mexican composers incorporating the forms of unknowability and of the unexpected that arise from improvisation into his creations. 3.14 is a sonic action inspired by and performed at the circular foyer of the Museum of Modern Art in Mexico City. This piece was part of a series of commissioned projects seeking to situate the Museum at the centre of the experimental sound and music scene in Mexico – entitled *Bosque sonoro* [Sound Forest] and including works by Taniel Morales, Guillermo Santamarina, Cabezas de cera, Antonio Russek and Sosa. In 3.14, for over three hours Sosa manipulates a closed circuit of sound signals in continuous feedback, which he modifies every three minutes and fourteen seconds.⁵⁷ Sosa makes

⁵⁵ On the role of non-human agency in cybernetic art see Pickering, *The Cybernetic Brain*, 236. The notion of feedback in cybernetics, which has been described as directly influencing electronic musicians' interest in feedback, is intrinsic to the (self)-organization of decentralized and non-hierarchical – therefore indeterminate – systems. See Knut Aufermann, 'Feedback and Music: You Provide the Noise, the Order Comes by Itself,' *Kybernetes* 34, no. 3/4 (2005): 490.

⁵⁶ David Borgo, 'The Ghost in the Music, or the Perspective of an Improvising Ant,' in *The Oxford Handbook of Critical Improvisation Studies*, ed. George E. Lewis and Benjamin Piekut, vol. 1 (Oxford: Oxford University Press, 2014), 15.

⁵⁷ An excerpt of the piece can be heard here: <https://soundcloud.com/rogelio-sosa/314-live-museo-de-arte-moderno-extract>

direct allusion in the title of his piece to John Cage's 4'33" (1952),⁵⁸ but breaks with Cage's attempt to produce a void that can be filled with sound. He seeks instead to explore the possibilities of variation of given sounds as they are intensified and transformed both by acoustic feedback loops and by the architectural medium. The artist describes his intention to gradually weave together 'un entramado sonoro envolvente que inundará el museo de complejas masas armónicas y sonidos resonantes' [an enveloping sonic network that would inundate the museum with complex harmonic masses and resonant sounds], thus evoking the possibility of producing an immersive, textured and multilayered soundscape.⁵⁹ In this work, feedback plays the role of ghost in the electroacoustic machine, making audible the various unexpected sounds produced by the music equipment and incorporating random patterns of sonority into the piece.

In summary, 3.14 draws upon a tradition of musical composition and performance that investigates and expands the aesthetics of feedback while also engaging with an ecological politics deeply interconnecting an environment with a system of creation. David Belgrad discusses Cage's 4'33" as an early example of feedback music, to the extent that 'the audience's output (the sounds they make) is also their input (the very music they are listening to)'.⁶⁰ This sub-genre of experimental music only began to develop in the 1960s, with works like 'Kontakte' (1959-1960) by Karlheinz Stockhausen, Max Neuhaus' performances of John Cage's 'Fontana Mix', entitled 'Fontana Mix-Feed' (1963 onwards) and Alvin Lucier's 'I am Sitting in a Room' (1970). Jimi Hendrix brought the acoustics of feedback into the mainstream, revealing in his performances the expressive possibilities of

⁵⁸ In this seminal work of avant-garde music, the musician on stage plays nothing during the duration of the piece, shifting the attention of the public to every sound in the atmosphere.

⁵⁹ See <http://www.museoartemoderno.com/bosque-sonoro/>

⁶⁰ Daniel Belgrad, 'Improvisation, Democracy, and Feedback' in *The Oxford Handbook of Critical Improvisation Studies*, ed. George E. Lewis and Benjamin Piekut, vol. 1 (NY: Oxford University Press, 2016), 8.

a guitar beyond human mastery. Effectively, feedback music offers insight into the agency and expressivity of objects, and the forms that these take in the aural sphere. Moreover, the use of feedback in music composition and performance makes space into a sonic category, rendering some of its oscillatory and non-Euclidean dimensions perceptible. As German electronic musician Knut Aufermann writes, through musical feedback, the human ear can sense 'the oscillatory changes in our environment, the increase and decrease in the air pressure around us', and the continuous co-production of architecture and sound.⁶¹ Therefore, Sosa's piece not only explores the possibilities of variation of a defined sonic signal over a certain time, but the acoustic expressions of circular space. This is arguably best conveyed aesthetically rather than physically or mathematically, particularly if we take into account the improvisatory elements embedded in the performance.

These unexpected and varying effects resulting from the agency of objects in feedback music takes us back to the relationship between new media and the Romantic interest in the invisible and the unknown. The art of new media continues this interest, but it is also deeply invested in exploring the sensuous possibilities opened up by technoscientific change. I would suggest that a new understanding of the sublime emerges in this coupling, as technology becomes an ecological force that decentres the human towards unknown and invisible realities, widens the borders of perceivable experience, and ultimately reveals complex interconnections between human and non-human agents that may constitute an 'expanded mind' (relying on Gregory Bateson's terminology).⁶² Just like the brain, this mind is plastic and decentralized; it utilizes the circular mechanisms of

⁶¹ Aufermann, 'Feedback and Music: You Provide the Noise, the Order Comes by Itself.'

⁶² Gregory Bateson, *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (Northvale, NJ: Jason Aronson, 1987).

feedback for its autopoietic organization. This post-human, improvisational mind reshuffles the relationship between author and consumer, instrument and creator, artwork and environment in new media art. Thus these creations dwell in the often invisible yet densely inhabited electromagnetic forests of a dark ecology.

Control in the dark: Joana Moll's sightless vision

As much as the new machines of perception enrich the fields of vision, audition and touch, they also unveil the extent to which the new frontier of (political) control lies in the conquest of the invisible, the inaudible, the untouchable. The 'dark sides' of an ecology without nature are the potentially pernicious consequences of increased use of weaponised sound, ultraviolet CCTV and temperature-detecting (thermography) drones. As these technologies make new layers of the real perceptible and 'manageable', the aspiration to *pasar desapercibido* [pass unnoticed], seems increasingly to become an impossibility. If the voice was once the univocal expression of the subject and the most characteristic of its traces, today the subject 'speaks' through each one of its detectable traces, to the point of not having to admit a crime for the identity of the suspect to be, for instance, biometrically established. Today we speak and write with the entirety of our bodies, as each one of our gestures becomes codified in digital texts that often escape our own understanding. These are our new McLuhanesque 'extensions', their boundaries becoming worryingly unclear. For Paul Virilio, the next step in the long history of what he terms 'the logistics of perception'⁶³ is not the rise of more sentient beings – the kind of

⁶³ Paul Virilio, *The Vision Machine* (Bloomington-London: Indiana University Press-British Film Institute, 1994), 7.

'polyattentive' beings that John Cage dreamt of –⁶⁴ but rather of 'synthetic' or automated perception.⁶⁵ For Virilio, 'it is actually impossible to imagine...the interpretation produced by this sightless vision':

Unless you are Lewis Carroll, it is hard to imagine the viewpoint of a doorknob or a button on a cardigan. Unless you are Paul Klee, it is not easy to imagine artificial contemplation, the wide-awake dream of a population of objects all busy staring at you.⁶⁶

Despite – or possibly because of – the ultimate indecipherability of what is understood (not unproblematically) as the prosthetic gaze, machinic agency has in reality come to serve both the purposes of control and loss of control, information and disinformation. Computer-assisted technologies, in all their multi-dependent materiality, tendency towards replicability, and vulnerability to failure, often incorporate factors of incalculability into systems of control. This is powerfully expressed in Catalan artist Joana Moll's net-based piece, *AZ: Move and Get Shot* (2010), which returns us to the second scene with which I opened this text. By using a simple algorithm that identifies and stores the images of a given website and then joins them together into a video, Moll captures the prosthetic vision of six surveillance cameras situated strategically by civilians in order to photograph immigrants in the Arizona desert. The cameras were placed neither to detain the immigrants nor to provide them with help, but rather to proliferate fear against them by

⁶⁴ See Belgrad, 'Improvisation, Democracy, and Feedback'

⁶⁵ Virilio, *The Vision Machine*, 62.

⁶⁶ Virilio, *The Vision Machine*.

making the photographs of their journeys in the desert publicly available online. Equipped with movement sensors, each camera automatically shoots when it feels a movement, offering a discontinuous stream of pictures taken over long periods of time. As we can see in the resulting photographs and videos, the faces or contours of immigrants in the photographs are nevertheless rare. What we see is rather an alluring landscape, depicted day and night with a degree of visual detail that is unavailable to the human eye. The contours of a cow's udders alternate with the moving legs of running deer and the pointed silhouettes of cacti. The non-humanly operated cameras seem to remain blind to the xenophobic feelings that led to their emplacement. Each take slowly undermines the idea of the dangerous other and returns instead an enriched view of the Arizona desert, activated by the rhythms of wind, plant, animal and only occasionally human movement. Furthermore, in a border politically imagined as a unidirectional trail for 'illegal aliens', the pictures portray a landscape marked by continuous flows of life in all directions, where the line demarcating legality from illegality is not indexed. With the crossing of one cow after another, one deer after another, their bodies both cropped and intimately captured by the camera lens, the linearization of the border becomes an unfortunate modern fiction, spectrally sustained by the animalization of the imagined enemy.

New sentience and the return of mysteries

Moll's prosthetic depiction of the Arizona desert leads me to propose, by way of conclusion, a reflection on the extent to which the technologies of new media may open new avenues to direct our sentient attention towards "nature", or, better said, towards bio-machinic symbionts. Ariel Guzik's *Plasmath Lute* (2003-2005), which I describe in the

last of this chapter's opening scenes, brings us into this terrain. Enabling the co-production of an aesthetically pleasing work of sound art through the communicative interaction between technology and organic matter, Guzik's instrument is a bridge towards a post-anthropocentric worldview. As a 'deviant' instrument, the *Plasmath Lute* illuminates possibilities of creation involving human and non-human beings, both situated on a plane of immanence, and equally responsive and attentive to the mutability of time. This heavily wired yet seemingly autonomous lute, whose strings are capable of perceiving the (sonic) vibrations of cacti and making them audible to humans, collapses the humanist distinction between a techno-scientific world that enframes and subjugates nature, on the one hand, and a natural domain dissociated from human life, on the other. In the music emanating from Guzik's instrument, 'technology' and 'nature' not only become assembled into circuits of communication but jointly express affectively charged messages in aesthetic, vibratory form. One learns that contemporary aural technologies can listen and express rhythms of the cacti world humans cannot, and Guzik's works suggest that the direction in which we take this potentiality is ultimately undefined. Continuing the post-cybernetic expressions of Romantic intention that I discussed previously, the work attests to the fact that even as we engage with the most sophisticated forms of mechanical automation, mystery may be preserved. As Guzik claims: 'la ciencia, tal como es ahora, busca desentrañar misterios, en tanto que nuestra forma de investigación intenta, por lo contrario, preservarlos' [science, as it is today, seeks to unravel mysteries; while our mode of research aspires, by contrast, to preserve them].⁶⁷ This returns us to the two senses of darkness in contemporary Mexican art that I discuss in this essay. We find ourselves

⁶⁷ Quoted in Pijamasurf Mexico, 'El Electromagnetismo Hace Sonidos: Mega Instrumento de Ariel Guzik,' *Pijamasurf*, February 5, 2014, <<http://pijamasurf.com/2014/02/el-electromagnetismo-hace-sonidos-mega-instrumento-de-ariel-guzik-llega-a-la-ciudad-de-mexico/>> [Accessed March 17, 2017].

situated in the performative epistemology of a dark ecology, wherein the distinction between nature and culture, alongside the idealist search for lasting essences, have been displaced by a monistic understanding of interconnected systems or assemblages. As electromagnetic currents flowing through vegetable sap or *savia* organise the captivating sounds of a non-human lute concert, the cybernetic promise of a machinic world capable of expanding the sentient possibilities of living beings seems close to fulfilment. Yet as the sounds, vibrations and colours of the real multiply, the proliferation of mysteries persists.⁶⁸ This may constitute one of our first post-humanist lessons.

⁶⁸ Let us recall that the Greek origins of the word *mystery* already refers to the sentient experience of darkness, the root *μύειν* referring to the closure of the lips or the eyes (OED).