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**The Rhythmic Event**

**Art, Media, and the Sonic**

**Eleni Ikoniadou**

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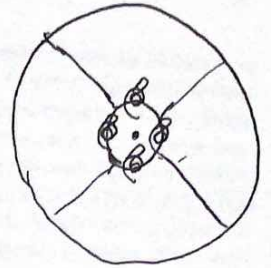
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After all, there is nothing real outside our perception of reality, is there?

—Brian O'Blivion

## 2 Hypersonic Sensation



Some mornings I wake up with my head full of rhythms, and rhythms of rhythms and rhythms of rhythms of rhythms. And to have to speak English is like having to put on a straightjacket.

—Sa'ke'j Henderson

The zones of the rhythmic event allow us to think of digitality as affective, indeterminate, and autonomous from intentionality and subjectivity. They open up a way for us to perceive the digital as an assemblage of immeasurable and inaudible rhythms that impinge upon a body but are not fully exhausted by that body's sensory perceptions. Hypersonic sensation is yet another layer in the abstract architecture of the rhythmic event. This chapter suggests that the concept enables a deeper look into a region of potential that adds a felt surplus to actual perception and experience. The chapter offers an analysis of the nonhuman becoming of perception: its nonsensuous, self-modulatory states that are not readily available to cognitive awareness. The argument is that there is a tendency in perception to slip out of consciousness brought to our attention in certain occurrences of digital sound art installation. This is the case because the digital sonic arts can help challenge the idea of space as immaterial void and as coming to life purely through the actions of the perceiver. As these artwork-performances unfold, perception transforms into a complex modulation proper to the modes of attention, feeling, and experience proposed by the rhythmic event. In conceiving a nonsubjective becoming of perception (i.e., sensation), more questions emerge, such as What if perception is not entirely human, that is, conscious, sensuous, and the center of all receptive activity? If this proposition holds, then what alternative relations can we invoke between the invisible and imperceptible force fields of the artwork and what is actually there?



Hypersonic sensation is felt as a faint energy enveloping the media art event and pointing to its capacities to create linkages outside its actual spatiotemporalities. It is hypersonic in the sense that it involves the concealed sonic aesthetics of the new media artwork and its capacity to affect a body viscerally, pointing to how one can "hear without ears." Sensation, as mentioned above, is defined as a noncognitive feeling that points to the affective emptying of perception's conscious activity. For Deleuze (2003), and, following him, Massumi (2002a), sensation is the immediate and visceral registering of potential that adds a felt surplus to experience. As Connor explains in "The Shakes: Conditions of Tremor," there are feelings and sensations that take on a life of their own outside and beyond the bodies "who live them, who are their bearers or instances" (2008, 207). The media art examples in the following pages are arguably able to tap into the realm of hypersonic sensation where this autonomous feeling resides.

This level of the event deals with the potential shocks and forces concurrently autogenerated in a body and external to it and which do not belong to any known aspects of experience. Psychoacoustic (hypersonic effect), neurophysiological (auditory hallucinations), and ultrasonic (audio spotlight) strata of this realm probe the idea that perception is affective by rule rather than exception. The particular art projects that connect to these strata, extending their technoscientific ideas to aesthetic domains, expose a mode of sensation that is not just imperceptible but indeed not entirely human. Deprived of auditory sense and lost within its autogenerated shocks, a body seems to hover constantly between corporeal defect and incorporeal sensation, between consciousness and hallucination.

#### Hypersonic Effect and Hypersonic Affect

It is generally known that sounds above the frequency range of 20 kHz cannot be perceived by the human ear. However, a team of Japanese researchers led by Tsutomu Oohashi (Oohashi et al. 2000) discovered an alternative type of hearing. According to the published outcomes of their research, complex sounds of high frequencies not only affect human response but, in a way, complete perception. The team experimented with gamelan soundscapes from Bali that are extremely rich in high-frequency components (HFCs). The study demonstrated that during the convergence of very high (inaudible) and lower (audible) frequencies, perception appears to expand.

At this level, a body becomes more receptive to external impulses than when it is exposed to either high or low frequencies alone. This combined impact of inaudible and audible forces was termed by the scientists "the hypersonic effect."

The scientists established that "the (perceptual) sensitivity of human beings may not be parallel with the 'conscious' audibility of air vibration" (Oohashi et al. 2000, 3,549). HFCs may be conveyed through passages distinct from the usual air-conducting pathways and can thus affect the central nervous system and deep-lying brain structures directly. The hypersonic effect includes the potential participation of nonauditory sensory systems for which vibration does not necessarily translate to sound. Oohashi et al. note that when the entire body is exposed to consciously unrecognizable air vibrations, deeper structures of cerebral flow, which do not belong to the conventional auditory perception system, are enhanced and activated.

Consciously inaudible vibrational stimuli are microscopic perceptions that do not pass through the conventional air-conducting auditory system. As unidentified inaudible effects, they constitute an integral but hidden part of a body's capacity to perceive (sound). They suggest that conventional sensory perception may be only a part in the manifold layers of sensation that encompass and produce a body. Hence, for the purposes of this work, they are better understood as affects, amodal forces of feeling that impinge upon a system and that may or may not surface to sensory perception. As the researchers reported, hypersonic effect involves certain nonconscious mechanisms that induce the activation of "electroencephalogram rhythms" when they are exposed to HFCs (ibid., 3,551). The impact of phantom rhythms on a body blurs external stimuli together with internal qualities to the extent that it is no longer clear if these stimuli derive from an external or internal source. The hypersonic effect seems to enable a coexistence between what is within the auditory capacity of a body and a potential energy that surpasses hearing. It constructs an intensive zone where hypersonic effect becomes affect: a rhythmic energy that seeps in underneath conscious perception and contaminates it with its own sensations.

Oohashi et al. emphasize that further investigation into the phenomenon must necessarily include somatosensory perception. The somatosenses—including proprioception (body position), kinesthesia (movement), and the visceral (internal) senses—feature a high sensitivity to affect. In

the first place, they are nonhierarchical because of the symbiotic formations between them and their dynamic relationship with the brain, the nervous system, and auditory perception. This nonsensory system includes visceral sensibility: a "gut-level-feeling" that functions like "a second brain" affecting and affected by vibrational stimuli.<sup>1</sup> According to Massumi, "The immediacy of visceral perception is so radical that it can be said without exaggeration to precede ... sense perception" (2002a, 60). Viscerality pertains to an autonomous function of the body's innards, its ability to process what is consciously inaccessible to it. Visceral sensations are absorbed by the body immediately before they are processed by the senses and contemplated by the brain. Before the ear grasps sound and inaudible vibration becomes audible wave, hypersonic affect is registered in the viscera as a shock to the gut that precedes sensory awareness and allows a body to feel presubjectively.

A body is thought to absorb hypersonic excitations as soon as they emerge—at their presubjective and preperceptive states. The sensation, then, is neither an innate quality nor does it depend exclusively on external stimuli. Following the relationship between viscerality and sensation, the process may be significantly more complex. Hypersonic affect can be defined as an incipient sensation emerging at the moment of collision between high-frequency vibrations and the visceral anticipations of a heightened body. This impingement enables the detachment of a body from a specific mode of experience and the emersion of a nonsensory, non-conscious, machinic subjectivity. Digital works that can be said to unveil this condition tend to focus on indiscernible fields of energy—electromagnetic, vibrational, intensive, and hypersonic.

### Invisible Aesthetics

Sonocytology is a method for accessing cellular vibrations at the level below perceptible sound, discovered by nanotechnology professor James Gimzewski. Sonocytology studies cellular vibrations using an ultrasensitive instrument called the atomic force microscope (AFM), essentially a tiny "finger" on the scale of a nanometer.<sup>2</sup> The AFM is normally used to read surfaces through touch, like a blind person reading Braille. However, Gimzewski's team used it to detect the motion of cells producing numerous minuscule vibrations per second, under various conditions. For example, when

researchers intervened in the temperature of cells, their sound would speed up or slow down: they would beat faster or slower accordingly. Unlike optical microscopes, the AFM *feels* oscillation occurring at the membrane of a cell like an electrical signal in a liquid environment. As scientists are "blind" at the molecular level, the AFM enables them to feel and extrapolate movement to audible frequencies and thus to sensory perception. Through these sonocytological experiments, Gimzewski and his team found that the state of a cell—presence or lack of movement—and thus its futurity are directly linked to its state of vibration.

Following the discovery of sonic cells, nanoscientist Andrew Pelling and media artist Anne Niemetz embarked on a collaboration to create an audiovisual installation for the NANO exhibition at LACMA (2004).<sup>3</sup> Entitled *The Dark Side of the Cell*, the installation displays a collection of small speakers and cell sculptures in a dark room. The sculptures are architectural constructions superimposed onto audiovisual projections, infusing cell design with image-movement and amplified vibration. The resulting environment synthesizes an immersive audiovisual experience that aims to transport the visitor to the nanorealm of vibration. Although this may look like the stage for a cellular orchestra, the installation features no hierarchical organization: there is no central point, and the sonic environment varies randomly (via the use of generative algorithms) at any given point within the space. The intention is to motivate the audience to experience the variances in sound frequencies emitted from the cells by moving through the spacetime of this installation. This experimental "cell sonics" is made of unobservable biophysical deformations. Building artificial environments from the biophysical movements of cellular vibration suggests intriguing possibilities for the relationship between living and nonliving matter.

The AFM has a tiny silicon tip attached to a microlever with which it touches and scans the surfaces of the cell sculptures, recording their topography. In *The Dark Side of the Cell* it becomes a new sonic instrument that "plays" the cell by feeling its surface. The AFM and cell appear to enter into an autonomous rhythmic relationship that defies the need for a human observer. The bumps and cuts on the vibratory surface of the cell are felt by the AFM's nanofinger as it strokes the cell's jagged surface. At the audible scale of the installation, the senses pick up a continuous hissing noise amplified by the speakers of the installation. At the nanolevel of their encounters, technoscientific instrument and living unit enter an inaudible zone





Figure 2.1  
Andrew Pellin and Anne Niemetz, *The Dark Side of the Cell*. Courtesy of the artists.

beneath the plane of known sound. Their coupling nevertheless does not simply extrapolate the small scales to the macrolevel of perception proper. Instead, it exposes the more obscure zones of experience as it crosses over to the nonhuman sphere.



If science and technology are devoted largely to the *discovery of truth*, then their instruments, structures, and processes must reflect this endeavor. However, practices and apparatuses emerging from alliances between the aesthetic and the technoscientific are perhaps capable of incorporating more abstract ideas. In particular, they might enable the consideration of indeterminate findings that confirm uncertainty and obscurity rather than fact and conviction.<sup>4</sup> AFM and vibrating cell respond to each other's changes in a way that does not follow the usual scientific discourse framing science as the acquirer of accuracy and actuality. They do not quite enter the relationship between perceiver and perceived, or observer and observed, but are interlinked components in an amodal relationscape.<sup>5</sup> *The Dark Side of the Cell* fosters this relationality, initiating further linkages between the irregular rhythmicity of a cell—its movement at the nanoscale—and the emergence of inconclusive processes, not entirely accessible by human perception. The work is characteristic of a relatively recent tendency in new media art to shift focus toward the realm of the ethereal. As this project implies, industrial and mechanistic models of the world have given way to its technoscientific “sensing and probing in a very abstract manner” (Gimzewski and Vesna, quoted in Ascott 2007, 311). *The Dark Side of the Cell*, as an event dealing with the workings of the unknown, seems to address certain atypical states of perception. At the nanolevel, the event is submerged in what we cannot observe or know in its entirety, and which exceeds our observations, interpretations, and subjective experience.

In the last decade, a number of media art platforms have attempted to explore the direct impact of the ephemeral on digital sound aesthetics. Projects such as *Resonance*, for example, highlighted the impact of ether and energy on the human body and the technological environment.<sup>6</sup> The artistic research unit *Elab* (Abstract Realism Lab) makes installations and multimedia events that occupy the gap between technology, aesthetics, and indiscernible energy. The lab's use of light, ether, energy, vibration, resonance, visceral effects, and immersive sound aims to produce environments enduring “between earth and sky.”<sup>7</sup> One of *Elab*'s interventions into the unknown zone of the gap is *Influencing* (2005), a permutational media installation that works at the micro- and nanolevels of reverberation phenomena.

*Influencing* uses needles from an AFM and an SEM (scanning electron microscope) alongside a turntable in order to put Nicola Tesla's “potential

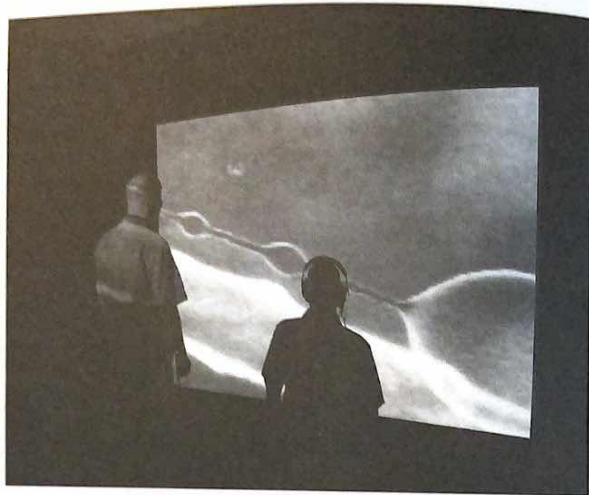


Figure 2.2

Ælab, *Influencing*. Courtesy of the artists.

of zero point energy" scheme into practice. This is the idea of tapping into an ambient medium as a source of energy that is self-regulated and self-sustained. The AFM, SEM, and turntable come together to evoke the phenomenon with their curvilinear tip (nano-needle) and turntable needle. Participants in the installation are invited to enter an empty space where at first, seemingly, nothing happens. As they move about the room, their movements are captured by sensors, which trigger a sequence of audiovisual segments. The segments are created at the interplay between different amplification scales, relating to the participants' movements. As the project's statement explains, "The more you move, the 'deeper' you will go." Participants must keep moving in order to gain access to the next set, as in a video game where user motivation is to progress to the next level. The sequences project micro- and nano-imagery accompanied by surround-to-binaural immersive sound, depending on the position of the needles and the data collection sensed in the room (light, proximity, and temperature).

The detection of motion (via "frequency of movement" sensors) generates sets of audiovisual cross-fades. Subsequently, these may become disturbed (blurred) according to the impact of bodily movement (including shadows) and imperceptible changes in the room itself. If no movement is detected, sequences return to the beginning and the space falls back into its initial dark state.

This work seems to reflect a yearning to feel the deviations of matter outside the scope of the visual. The installation works with a continual exchange of energy between living and nonliving matter. The artists cite Tesla, who noted that "even matter called inorganic, believed to be dead, responds to irritants and gives unmistakable evidence of a living principle within" (Tesla 2007, 504). *Influencing* constructs a dark vibrational chamber to evoke the idea that there is no essential distinction between organic and inorganic, animated and inert matter. According to the project's statement, the various elements that compose the installation form "connections of transduction" between them. Physical movement triggers subtle, inaudible, and invisible forces inside the room as potential passes from one domain to the other. The artists term this approach "immersive formalism," the process of composing spatial, pictorial, audio, and temporal elements that are reworked in the passage from one configuration to the other. In its attempt to work directly with unperceivable forces, Ælab engages with the conductive potential of matter. Ultimately, the lab's intent is to build interfaces that conjoin actual forms, spaces, and senses with something that escapes them. The aesthetics of *Influencing* are generated from a tension between the "normal" and unexpected modulations in perception. These modulations help to question our common understanding of the art object and of aesthetics, and invite us to consider the contingency of nonhuman agency and the unexpected states of the event.

Ælab's work turns the spotlight toward the media environment's own affections and perceptions, and appears uninterested in the typical discussions of intentionality, control, and interactivity that we tend to find at the core of media art. Their art shifts our attention to a "middle zone" that belongs not exactly to the present, by minimizing or even removing sensory perception from the felt experience of the artwork.

*L'espace du milieu* (2011) is another relevant example of how Ælab experiments with these ideas. This site-specific project takes place in three parts: (a) as a production residency in Darling Foundry, a small gallery in Montreal



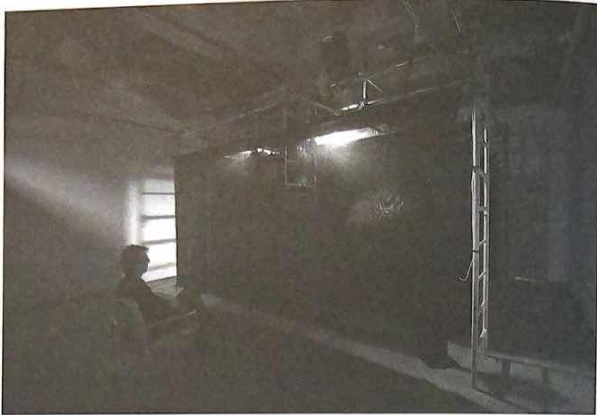


Figure 2.3

Élab, *L'espace du milieu*. Courtesy of the artists.

(February 16 to March 9); (b) as a multiprojection at night, on the translucent windows of a building on Prince Street, Montreal (February 26 to March 5); and (c) as an audiovisual installation (March 11 to April 10). The 100×9-foot multiprojection emanates fluctuating computer-generated images of imperceptible particles from the inside of the building, visible to passersby and from the nearby highway. The space's own affective duration is instantaneously transmitted to the outside world, impinging upon the milieu with its own forces and making the silence and gap of the space felt. The building's felt pulsation strikes a blow to the mundaneness of the seemingly static environment, suggesting that there are no empty spaces, only the bustling indiscernibility of nonliving matter. Along with the supravisual experience of the large-scale projection, the apparently quiet interval of an abandoned nighttime space is transformed into an intensive occurrence without a human agent.

This second part of the project accompanies and expands, affects and becomes affected by the third and final part of the experiential installation. Here, all sensory experience is reduced and minimized to a scale so elusive that it baffles ordinary perception. Visitors of this area must adjust "their own sensory threshold ... in order to begin picking up the subtle

aural, visual and visceral effects which are orchestrated in the space" (Forster 2011).<sup>8</sup> The space is divided by scaffolding into three parts, with no technological equipment in sight. Inside the first dark area, visitors can lie on a bench that transmits fleeting resonances and vibrations. Immersed in this inaudible darkness, the body's sense of direction and orientation of the space is thrown into confusion. The second part of the installation features an illuminated sonic chair, which renders vision irrelevant owing to the lack of any particular visual cues. Sitting on it, engrossed by audible sound and intense light but seeing nothing, unleashes the vibrations of the room, "like a pulse or rhythm which lulls any specific readings in favour of an immersive attentiveness to the surround" (Forster 2011). Inside the third area, visitors are invited to stand or move around a black screen, animated by a 3D projection of abstract patterns. The wavelike twirls and whirls push the undecidability of the senses and the transformation of perception further by disrupting a body's capacity to distinguish clearly—between real and unreal, tangible and intangible, what is actually perceived and illusory-yet-real sensation.

As the project description reads, "*L'espace du milieu* explores the reflexive emanations of the middle zone. ... The middle (or centre or interval) operates multiple changes with what surrounds it. ... The work is experiential, inflecting the vibrational activity of middle spaces, which include and exceed humans." As suggested earlier in the book, the middle zone of rhythm and vibration is a rich milieu of potential. Writing on the micropolitics of movement and drawing on the taxonomy of rhythm as developed by Émile Jaques-Dalcroze, Erin Manning explains that—against the idea of measure or cadence—"rhythm moves through elastic points on ... milieus of transmutation" (2009, 131). The potential of rhythm exceeds actual spacetimes, that is, localizable points belonging to specific regions, showing that "not all that is proper to rhythm actualizes" (ibid., 132). To visit *L'espace du milieu* is to witness the liquidation of precise spatiotemporal coordinates and to feel the passage from a particular mode of sensing into amodal experience. Élab has produced an inconspicuous space that allows for the transmutation of subjective experience into the durational modulation out of which "a microperceptual body begins to emerge" (ibid., 95). The subtle forcefield that a body encounters while wandering through the components of the project is a clue to what else populates and generates the body's perceptions and what lies beyond the body's actual knowledge.



The microaesthetics of an experiential yet, as my argument goes, non-subjective media art require an altogether new logic, suitably approached by a minor theory of rhythm. At the same time, subtle vibrational art seems an appropriate plateau on which to experiment with the question, "How is rhythm felt?" This quest has led researchers to various domains: Dalcroze to his eurhythmics method of experiencing music through movement (Manning 2009); Bacon to the deformational, dehumanizing figures in his triptychs (Deleuze 2003); Boulez to the idea that structure is dynamic and space polyphonic (Boulez 1975).<sup>9</sup> This book finds rhythm in the ineffable microaesthetics of media art not in order to illuminate or attach meaning to it or with an intention to bring the imperceptible to perception. Rather, it follows an inclination that exploring the inexpressible prelinguistic realm extends us an invitation to engage with the event and "make sense" of it in extrasensory ways.

*Aetherspace* (2005) is a computational garment by Nick Knouf that seems similarly to attempt to account for the involvement of the unapparent (forces of "Hertzian space") in the workings of perception.<sup>10</sup> According to Knouf, the project emerges from an inquiry into what other types of experience might exist beyond the limitations of our "natural" abilities and the restrictive physical world of objects. The collar, shown in figure 2.4, uses wearable transducers of electromagnetic (EM) waves that capture the various components of this energy and turn them into sonic waves. As the wearer strolls



Figure 2.4  
Nick Knouf, *Aetherspace*, with Claudia Pederson as model. Courtesy of the artist.

around the city, the garment's antennae pick up various waves (gamma, microwaves, ultraviolet, infrared, mobile and radio waves) and "feed" them to a digital algorithm built in the collar. The algorithm then brings these components to the audible range of hearing through headphones. The user can manipulate settings such as volume and choose between sonorous and high-pitched radiation zone warning dials, minimal tingling sensations, and radio waves or infrared sensors that pick up the heat of nearby bodies. Hence, the device implements a multifaceted process that aims to intervene directly in the notion of perception, by occupying the ground of the unaccounted-for energies in our daily experience of the world. This alternative method of exploring the electronic urban environment aims to add to a body's experience of and interactions with technology.

*Aetherspace* aspires to be one of the building materials for the manifestation of a Hertzian architecture of space. "Hertzian space" is a relatively recent term, coined to describe "the dreams of electronic objects" that create a "new, invisible but physical environment" (Dunne and Raby 2001, 8). Anthony Dunne and Fiona Raby, who coined the term, envisage a world where electronic objects "leak their dreams" (*ibid.*) in the form of electromagnetic radiation. Their design work typically speculates about the obscurities of the technologically mediated world, both conceptualizing and building at the interval between reality and the impossible.<sup>11</sup> Hertzian space, we might argue, is the equivalent of digital agency, referring not to any inner quality in technology but to an abstract energy, accompanying, but not owned by, a particular object. Dunne and Raby argue that sense organs cannot grasp the full potential of environmental energy, since most of it lies outside the narrow bandwidth of perception. Despite the vast spectrum of rhythms running independently across electronic milieus, our limiting definitions (of perception) only ever describe a tiny part of it.<sup>12</sup>

*Aetherspace* addresses the slippery aesthetics of Hertzian spaces by tapping into the remote corners of audio perception. The garment could be said to interact directly with the energetic potential of spaces, inviting us to rethink human experience outside the knowable sphere. Therefore, it could be argued to insinuate that our conscious perceptions and physical interactions with electronic spaces are only a glimpse of the immeasurable potential of the assemblage. Looking at the emergence of a new Hertzian architecture, Kazys Varnelis (2008) recounts that computation, in design, architecture, and elsewhere, has tended to imply complexity of form. His view is that digital architecture commonly engages with the conceptualization,

execution, modeling, and building of ever-more-impossible morphologies. However, in so doing, it seems to ignore the secret world of unbuildable spaces, those fuzzy spatiotemporalities more closely surveyed by the audio art experiment. Architectural theory and design could potentially incorporate what lies beneath the cognizable environment by drawing on digital media art. In particular, Varnelis proposes to confront the hidden forces and energy aesthetics that surround and compose our spaces and to immerse ourselves in them, as they “warp the very fabric of the city” (2008, 9). Following Varnelis, rather than approach the technological impact on culture in terms of ubiquity, evolution, or progress, we need to open up to the “chance encounters” that it effectuates.

A degree of surprise seems unavoidable in the investigation of the cut (the gap or interval) between “real and impossible” worlds. The cut produces new affective transformations of perception and experience, beyond the predetermined expectations of what a body is (human, technological, or other) and what it can do. From a rhythmalytic standpoint, the body moves closer to what Spinoza called “the thing”: an abstract life form that potentially affects and is affected by other bodies with which it enters into unexpected relations. The affective body that digital media art brings forth appears to escape pregiven ideas of perception. No longer in control of experience, perception becomes redefined as a random vibrational event over and above human reign. *The Dark Side of the Cell, Influencing, L'espace du milieu*, and *Aetherspace* can be understood as attempting to harness the forces that subsist outside the range of subjective perception yet are crucial to it. Sensation, affectivity, and rhythmicity should be considered as accompanying, enveloping, and generating subjectivity, perhaps revealing all of perception as intensely affective. The energy experiments coming together in this section of the book map a passage from an “all too human” phenomenology of perception to its nonhuman becoming. Their Hertzian, vibratory, and imperceptible force fields disturb a body's ordinary apprehension of spacetime, of itself, and of other bodies, twisting and stretching our notion of perception to include new, unfamiliar territories.

#### Autogenerated Audio

Recent neurophysiological studies in progressive nerve deafness have asserted a direct link between sensorial defect and autogenerated auditory

hallucinations. The studies were conducted by neurologist Oliver Sacks, whose research specializes in unusual situations that emerge on the borders of neurological experience.<sup>13</sup> According to Sacks (2012), a hallucination is not at all like an image, where your imagination is your own, you recollect and you put things together. Instead it expresses an overwhelming feeling that tends to appear suddenly, “involuntary, uncontrollable” (ibid., x) and autonomous from an outside source.<sup>14</sup> Deprived of sensory input, auditory perception can autonomously generate spontaneous activity in the form of hallucinations. These “release” hallucinations range from loud tinnitus to entire symphonies, and appear clearly in the temporal and frontal lobes during brain imaging. Such seemingly abnormal brain activity has been described by patients as like having “a circuit in the head” or as “an autonomous machine” within the body.<sup>15</sup> In almost every sufferer, analogies between hallucinations and technology develop initially from a feeling that the sound derives from an external apparatus. On most occasions, the hallucination seems to emanate from an outside source, such as a radio, television, stereo, or any type of “noise machine.” It is only when every external source has been eliminated that the patient begins to realize the noise is generated from within his or her own body. However, in this peculiar event, the relationship between human body and machine is not exhausted in analogy. Often, auditory hallucinations are the direct expression of a backflow of activity that emerges as independent from the sensorimotor. Although they appear to be indistinguishable from sensory perception, they constitute a dynamic self-governing generator—a body within a body that may or may not be thrown into operation.<sup>16</sup>

Auditory hallucinations are vivid, forceful, and not necessarily restricted to nerve deafness or the deprivation of sensorial input. According to Sacks, on certain occasions hallucinations can be caused during a seizure or a stroke. Seizure hallucinations are intrusive and involuntary, often occurring in couplings of two or more simultaneous sounds of entirely dissimilar character. These “aural seizures” appear as a “strange yet familiar feeling” to a body, felt both as external force and integral part of the seizure (Sacks 2007, 21). In some cases consciousness is lost during seizures, while in others a body enters a strange superimposed state of multiple experiences, referred to as a “doubling of consciousness” (ibid., 20–21). The latter can be compared to a feeling of déjà vu or a dream state, but it is actually a body feeling a multiplicity of states all at once. The seemingly abnormal



defective body is better explained as a body in what might be called a state of *hyperperception*, which refers to the intensification of perception beyond our habitual understanding of it. During this time, the sufferer's perceptual capacities appear to expand outside sensorial hierarchies, varying between strange visions or smells and hauntingly familiar sounds. The haunted body seems to oscillate between full consciousness and an isolated, semi-conscious hypersonic realm. A sonic hallucination does not trigger the seizure, it *is* the seizure, stretching a body toward a hyperstate or virtual state of consciousness.

During auditory hallucinations, perception and sensation seem to resonate together through a doubling of consciousness. This doubling-up causes the hallucinatory body to vibrate through and through, steeped in irregular pulsations of unspecified scope that might range from a mere instant to a day or a lifetime. Moreover, the hallucinations are largely beyond the conscious control of the body, and can disappear as suddenly as they appeared.<sup>17</sup> Often, sonic hallucinations cannot compare to a lived memory or experience of the body. Rather, they seem to independently generate new sounds entirely unknown to sensory memory. The novelty and strangeness of this experience provides a shock to the body, affecting its perception of linear time. Previously unheard-of hallucinatory rhythms suggest a mode of experience that does not arrive from the past, like a recorded or revamped memory. Their emergence questions both the notion of memory as the storage of past experience and the idea of experience as an entirely conscious lived event.<sup>18</sup>

Auditory hallucinations do not exactly belong to the suffering body, demonstrating a feeling of autonomy from the rest of the brain as well as from any known external point of origin or source. They may therefore be better understood as veritable networks of self-referential rhythms existing in-between the conscious and dream states of a body. These hyperperceptual feelings *become* the body rather than communicate with or belong to it. As they range between the previously unheard-of and the vaguely known, they reveal the body as an unstable milieu, rhythmically jumping in and out of consciousness. The play between modulated auditory memory and the arrival of experience not-yet-lived surfaces as a bodily defect impinging upon the sufferer. It would appear, then, that theories of microneural defect can allow for the proposition of an intimate closeness (or even superimposition) of consciousness with its own virtual states. These hallucinations are

inclinations of a strain between the subjective state of a body and a set of unqualified, nonhuman energies that autogenerate independently of one's own will. Hallucinations are not macroreflections of the microcosm of a body, and—although their impact is vaguely felt by a body—they do not arrive from an external source. Instead, they superimpose the internal and external zones of an event, pointing to the complexities of perception in a hypersonic state. Sufferers gradually get a glimpse of these complexities, while non-suffering bodies may never become aware of them. For the first, the experience allows an acute conception of their body as "a kind of living laboratory, an experiment in nature through an auditory prism."<sup>19</sup>

These indeterminate feelings of illusion point to a mode of perception that perplexes average experience. During a hallucination, feelings subsisting at different (conscious and nonconscious) levels of the body become superimposed, and actual perception appears to coincide with its own potential. The shock of auditory seizures becomes an indicator of forces "that lie outside or below the level of conscious experience" (Sacks 2007, 232), appearing to have a life of their own. Neither entirely conscious of its condition nor in a totally illusory state, the affected body falls in and out of consciousness, its fluctuations revealing a tendency in human perception to expand toward nonhuman conditions. Defect indicating affect.

### The Silent Sound Effect

According to F. Joseph Pompei, inventor of Audio Spotlight (1998), ultrasound technology is an excellent carrier of directional sound.<sup>20</sup> Ultrasound, itself inaudible, has highly directional properties, and so can be controlled in the shape of a very narrow beam. When it interacts with nonlinear transmission properties of air, it becomes distorted and produces audible frequencies. Accordingly, Audio Spotlight is a narrow beam that generates and distorts audible by-products via a software program with the capacity to target specific recipient bodies.<sup>21</sup> Inside the specified zones of Audio Spotlight, targeted bodies experience the by-products of a highly inaudible technology created by secondary vibration. The spotlight's beam is narrow enough to sonically target a particular body and to exclude others outside its assigned space, like a flashlight beam inside a dark room. Ordinarily, sound technologies such as loudspeakers and megaphones spread sound in all directions simultaneously, flooding space like a lightbulb. However,

Audio Spotlight travels through space in straight lines and toward a particular direction, impinging upon a targeted body with selective precision.

In sonography, ultrasound is a noninvasive technology with the capacity to permeate a body and establish otherwise inaccessible information about its structure. It works by supplying focused energy that penetrates a normally undetectable dark space. Audio Spotlight relies on this technology to generate audio perceptions, selectively turning undetectable dark space into sonic energy. Here, the source of sound is not the physical device itself but the unseeable beam that makes a space audible via its contact with air molecules. The device seems to intervene directly with one's perception of space, generating the feeling that the sounds are in one's head. Audio Spotlight not only directs but can furthermore project sound against a surface (similarly to how light is reflected), creating an additional illusion of sound as generated and arriving from the surface itself. All in all, the sonic beam both produces acoustic space and renders it silent. Not only does it induce a hallucinatory headspace but, at the same time, it extracts and bounces sound off other bodies, linking them together. Audio Spotlight is born out of a complex topological relationship between interior and exterior dimensions, and intervenes directly on a body's usual perceptions of them.

Audio Spotlight technology features in *ACCESS* (2003–present), an interactive work by new media artist Marie Sester that tracks and targets moving bodies in a designated area.<sup>22</sup> In this work, a digital camera determines a tracking zone that is invisible to the public via a spatiotemporal grid connected to motion-tracking software. When a body is captured by the “invisible eye,” the spotlight falls on it and audio whispers—heard only by the targeted body—order, encourage, scare, or simply address it. As long as the body remains within the tracking zone it will be pursued by the spotlight and the audio. According to the artist, human bodies under the spotlight are unaware of what exactly is happening to them: who is hunting them, and how or why. Physical movement triggers both the spotlight and sonic beam, but the participant can also be tracked from a Web interface. Although particular bodies can be selected in real time by Web users, the device “has a mind of its own” and will function autonomously by scanning the tracking zone. Hence, it becomes difficult to determine who is in control: audio beam, Web user, or unaware body.<sup>23</sup>

*ACCESS* submerges bodies under its spotlight, surrounding them in an involuntary ultrasonic space. Its purpose seems to be to produce a field of



Figure 2.5  
Marie Sester, *ACCESS*. Courtesy of the artist.



intensive audio forces that shock the bodies that pass through them. On one level, the spotlight adjusts its speeds and rhythms to the actual movements of the body, immersing it in the brightness of its beam. The spotlight's intensity is designed to envelop the body's movement entirely, becoming one with it, making their separation impossible until a new movement "grabs" its attention. Motion-tracking algorithms are programmed to capture the movement of a body in the form of a granular moving swarm. The camera sees a population of grains forming a sticky blob: when two bodies (swarm clouds) come into contact or close proximity, the program might leave one body for another—Audio Spotlight as digital contagion.

On another level, at first glance the device may appear in full control, targeting bodies indiscriminately across its spatial territory and for an indeterminate amount of time. Nevertheless, its process of contagion casts the target in a more dynamic role. Participants engaging with the installation provoke the spotlight by seeking contact with other bodies and attempting to lure it toward or away from them. With one move, a body comes out of the shadows and is captured by the grid; a moment later it becomes undetectable, falling back into the darkness from which it emerged. Following on the angle of contagion, interactivity takes the form of a viral entity rather than a unidirectional reflexive process. As targeted bodies slip in and out of *ACCESS*'s indeterminate zones, they become potential carriers of audiovisual forces, interacting virally with other bodies and with the machine, with no regard for the spotlight's intrinsic tendencies toward directionality and control.

Occasionally, being caught in the installation's web might signal a state of audio hallucination, a feeling that the sound derives from inside one's head. Deceptively autogenerated, the voices puzzle a targeted body, intensifying its feeling of disorientation conveyed by the floodlight. The targets become unsure whether they are the only ones to hear these voices, akin to those that haunt and confuse hallucination sufferers. Often the messages they transmit may take the shape of commands, instructing targets toward specific actions. On the verge between inner command and external influence, hallucination and reality, confusion and control, the affected body is thrown into doubt: should it try to escape or obey; run or fight? Is it being invaded by an alien danger, or is its inner sensation—the contraction of its own perception—in the position of contaminating the outside? The targeted body's capacity to affect and be affected by the audio spotlight in

a process of "rhythm and contortion" appears renewable. The "hide and seek" situation can be repeated endlessly, and the target may assume the role of hunter, or may succeed in escaping the machine. Every time the process restarts, all the elements of the assemblage fall back into uncertainty.

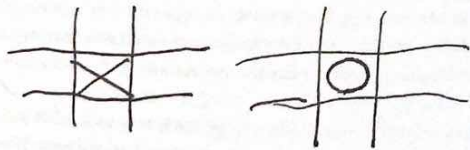
*ACCESS* seems to operate on a level of potential interactivity, sanctioning the emergence of microperceptual processes that escape the aware zones of the body. This mode of perception does not constitute a reflection of what is already given in the world—awaiting discovery by the perceiver. According to Massumi, via Deleuze and Guattari, affective perception takes place in between perceiver and perceived: "The properties of the perceived thing are properties of the action, more than of the thing itself. This does not mean on the other hand that the properties are subjective or in the perceiver. On the contrary, they are tokens of the perceiver's and the perceived's concrete inclusion in each other's world" (Massumi 2002a, 90).<sup>24</sup>

Following this train of thought, *ACCESS* appears to highlight a rhythmic play of movements and rests, speeds and slownesses. As the hunt between body and apparatus develops into unforeseen action, one's perception of spacetime changes from visual to modulatory, that is, to a self-referential dimension of experience that occurs in between actual interactions. This dimension of experience does not appear to belong to spacetime (as predetermined), digital machine (as enforced by it), or human being (as innate quality). *ACCESS*'s hunting arena is a manifold architecture of potential connections between audiovisual energy and affective perception. Rather than soberly thinking about its next move, the body feels the heightening of its nervous system as it enters the "fight-or-flight" response (Cannon 1932). Therefore, its actions may be better understood as implicit tendencies, acted out before they enter consciousness and become perceptions at the moment of their actualization. Perception is revealed as a middle way, as much outside the grasp of the perceiver as that of the perceived, and participating in both. It turns into a rhythmic flutter subsisting in between actual forms, individuals, and entities but irreducible to their intentions and properties.

The insinuated nonconscious becoming of perception in *ACCESS* suggests an intensification of the interactive experience. The rhythmic play unfolding in its arena need not quite originate from any particular source. Echoing Sacks's remarks on autogenerated hallucinations, this energy is born in between the elements as a vital gap immanent to the creative

processes of the project. As was the case with *The Dark Side of the Cell*, *Influencing*, *L'espace du milieu*, and *Aetherspace*, digital aesthetic interventions into technoscientific inquiries (audio spotlight, electromagnetic, hypersonic) put forward the idea of a nonconscious becoming of perception. Encapsulated in the concept of sensation, affective perception points to the prospect of a subjectless subjectivity and to something altogether nonhuman in human experience. Sensation takes over perception proper, expressed as an interference or tension between various elements (human bodies, sonic spatiotemporalities, machines). Sensation cannot be said to belong to the body per se, the way that perception is owned by a subject. Rather, the feeling may be understood to germinate in the zone between things, and may thus be viewed as a self-generated event that turns the distance (gap) between subject and object into an inaudible resonance. As it belongs to neither, it seems to imply a subjectivity that is unevenly rhythmic: crisscrossing natural and cultural, biological and artificial, internal and external domains without settling into an identity.

Contemporary media artists working with invisible, inaudible, and barely sensible energies are able to experiment with this condition of perception. Their practices enable the idea of a body emerging as a field of partialities—partially conscious and nonconscious, sensuous and affective—rather than as an obligatory whole. Considered as only partially human, the body is liberated from causal explanations and predetermined expectations of its relationship to technology. Instead of situating perception at the heart of receptive activity, the hypersonic layer of the rhythmic event exposes a hallucinatory, deprived, and defective body that relates to the world only contingently. Hypersonic sensation dislodges a body out of chronological habit and propels it into the vertigo of rhythmic time.



### 3 Rhythmic Time

Maybe the only thing that hints at a sense of Time is rhythm; not the recurrent beats of the rhythm but the gap between two such beats, the grey gap between black beats: the Tender Interval. The regular throb itself merely brings back the miserable idea of measurement, but in between, something like true Time lurks.

—Vladimir Nabokov

Conventional approaches to notions of novelty, change, and potential have led us to believe that time exists as a linear chronological scale, and that we can apply instrumental reason to predict and thus model and manage the future. These notions have a central place in digital capitalist ideology across all areas of contemporary experience. Along with innovation and risk—and subsequently risk management—they are part and parcel of the “promise of the new.” It seems that, even within the most experimental branches of the arts, sciences, and humanities, uncertainty (of events to come) is commonly assumed to belong to a set of predetermined scenarios. All we have to do is assign probabilities to it. However, notable attempts to think and practice “real” contingency are starting to emerge both in contemporary philosophy and in new media art. Spatiotemporal experiments with digital aesthetics and alternative theories of time, space, and futurity can help to develop the concept of rhythmic time as an amodal portal to the creative event. Rhythmic time is amodal in so far as it pertains to modes and processes that do not correspond directly to human thinking and sensory perception of time, or depend on them. As we will see, rhythmic time maintains a degree of independence from sensorimotor and cognized activities understood as intrinsic to the brain. Rhythmic time is the third and final layer in the conceptual architecture engineered by this book, aiming to explore the capacity of the digital artwork to act as harbinger of the event to come.