

# *HVAC, or Political Ecology as Facts of Pressure*

by Sarah Lewison

All things and beings in the universe are connected with each other—visibly or invisibly—and through vibrations a communication is established between them on all the planes of existence.<sup>1</sup>

**D**o. Pretend to. Sit with me in a basement office and listen to the small universe we occupied for 7 years as a university worker. The office opens onto a hallway. A plaque on the door names the worker who is remunerated for her time in this office. She, or me, this working subject on university payroll, is joined by myriad bacterial and fungal beings that co-constitute her by virtue of inhabitation, thus the pronoun, “we.” They/we also work, feel, and react, doing their/our own thing and multiplying aural reception to the room, pushing beyond a singular. Together we hear the pressure of air as it moves through a metal duct. More distantly, behind a thin wall, a motor is working hard. It turns a cirlet of blades that click-whirr, accelerating airflow through metal ducts. It sounds innocuous, even soothing, like noise generators that parents use to put their babies to sleep, or that therapists place outside the clinical door. The pipes are strapped into the space above a vertically suspended grid of compressed paper panels that occasionally jiggle. The blowing hovers just in the background of consciousness as we sit typing at the desk, a shadow in the corner, and certainly this was the intended design. Eventually, however, the sound of forced air emerges from the background fierce and fidgety, until the office becomes crowded with the clamor of numerous relations, many parts working together, well or badly. Metal ducts, corrosion, rust, seams, dust bunnies, dust, galvanized coating, strapping, fan blades, fungal colonies, gratings, barricading filters, motors, and coils shout out their existence, “listen to me!” “I am here too!” The air itself shunts in irregular rhythms as it collides with the duct’s concave interior surface. Operational flaws float in and out of recognition of our narrow human perceptual range. Terrible sounds emerge, inharmonious ones, such as the “diabolic” chord produced by an augmented fourth- a dissonant note in the middle of an otherwise harmonious chord, the stinkbug in the raspberry.

It seems noisy in here, but it’s not the same as other work-related sounds, like jackhammers and vacuums that cause eardrum damage to humans, sounds so loud they lead to deafness. It is a more complicated psychological aural entanglement with and within the office. For one, although it’s loud, we can’t be certain about what we hear because we can’t visually verify the relationships that generate these sounds. The HVAC collectivities produce a siren-like chorus that seems to amplify and change in feeling over time. Its songs slowly intrude upon the space, the body, an ambience that inducts, takes hostage by degrees, an always coming that never arrives. We are unable to gauge the spatial relationship this clamor has to us, to measure its distance, nor to keep them at bay. Whether I listen consciously or not, I take the sound personally as an affront that shrinks me in its presence. It feels like something inside is squeezed out. Its wind is drying, dehydrating, even in being heard it is felt. My subjectivity in relation to this sound, office, what this office does, and whatever I am supposed to be doing there becomes muddled, dislocated, diluted. Who is doing and what is it being done to? Timothy Morton writes about how the blurring of foreground and



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background disrupt anthropocentric orderings between subject and object.<sup>2</sup> This blurring is inevitable once we reject the idea there is a background, that there is any blank space at all. The HVAC, background to all life in the basement, is not a blankness; it bears not only an ecology in the form of its mysterious mechanical life and its phlegmatic winds, but also exemplifies an ecology in its constant mixing of the elements of itself, including, in my office, me and my biological inhabitants. In moving air between offices, it expands its reach, sucking up and relocating the exhalations of my colleagues in the building as well. In meditating on these inter-nestled ecological niches, it’s my intention to disturb lines drawn around the edges of the human, and to problematize the conditioning that allows us to tolerate conditions that remove us from the animals that we are.

With every sound we listen to, from lullabies to police sirens to sonic weapons to birdsong, we learn a little more about what kind of animal we are. As a trigger that draws out involuntary biological and emotional responses from organisms, sound messes with ontological borders. In her exploration of the embodied affectivity of sound, Salome Voegelin explains that because sound lacks the benefits of vision, which affords distance and the option to turn away, it has a different psychological effect. In giving shape to sound’s indiscernibility, she suggests hearing is always troubled by questions; “the phenomenological doubt of the listener about the heard and himself hearing it. Hearing does not offer a meta-position; there is no place where I am not simultaneous with the heard.”<sup>3</sup> In this respect, it is like the mouse scratching in the wall, or a highway that is always coming yet never arriving. The HVAC, always arriving and never there; the dominant sound of our environment, is always a fugitive, even as it also “sits in my ear.”<sup>4</sup>

More complicatedly, listening does not only occur in the ear. The membranes of our bodies vibrate in response to pressure at many

scales and registers with tiny waves that have consequence in the moment, awakening and associating memories of other vibrational pressures. For myself, and perhaps others in offices like mine, the operating HVAC recalls – in the sense of calling up- anxiety and loops of neurological trauma. I feel attacked as the sound insinuates itself into the situation as a fact of pressure. I am the object it gathers up and takes along in a physical exchange that exceeds the system's designated function of circulating air. In the presence of its call, that which I call myself deflates. Voegelin characterizes this diminishment of subjectivity in her own observations; "Noise exaggerates the isolation of my sensorial engagement and tightens the reciprocity between the listener and the heard."<sup>5</sup> Reciprocity I take here to mean an exchange that instantiates mutuality between two or more through some kind of material transference. This exchange rhythmically infiltrates bodies as energy itself in the form of waves of pressure, or vibration.

Vernacular notions of "listening" imagine the body as a container perforated by holes into which sound waves are directed by ears and/or reflected or amplified by microphones, hearing aids, headphones, spatial structures, at infinitum. Such "listening" performs and situates a kind of boundary traceable to Enlightenment notions of individualism and autonomy, along with contemporaneous imperatives for verifiable scientific evidence. Biologist Peggy Hill, writing on vibrational communication in animals, remarks that this kind of research was suppressed by assumptions that "substrate-born vibration could not convey any biologically meaningful information..." Second listens within the field reveal evidence to the contrary, especially as researcher inferences of 'biological meaningfulness' continue to evolve. Sampling from a range of research on animals' use of vibration in her book, Hill summarizes evidence that animals do in fact use vibration to communicate sonically through various substrates.<sup>6</sup> On the microbial scale, molecular microbiologists Hyland and Norris cite "intercellular communication involving coherent collective vibrational modes" among bacteria and there has been more recent work about bacterial communication and crowding dynamics.<sup>7</sup> Jim Gimzewski and Andrew Pelling's "Dark Side of the Cell" project digitally amplifies the sound of nano-scale yeasts moving around proteins and other molecules, and responding to manipulation by the scientists.<sup>8</sup> While such interventions make ambiguous the question of who or what is being communicated with, the recordings afford a route to imagining cellular acoustics. Listening, I think sound is a little like a factory, or like my HVAC, but then I must pause to remember my own body is necessarily profligate with noisy singing yeasts, proteins, molecules and microbes.

The deaf percussionist Evelyn Glennie, speaks about hearing "through my hands, through my arms, cheekbones, my scalp, my tummy, my chest, my legs and so on." As she relates her journey of learning to hear, she shows how the dynamics of her vibraphone respond to her grip on the wooden sticks. In "opening her body up" to sound as vibration, she makes perceptible a roster of material substances and qualities: bone, wood, air, mucous, cartilage, moisture, flexion, etcetera, that can be detected as tone, pitch, timber.<sup>9</sup> Glennie's sticks articulate the physics of pressure moving through various substrates and its capacity to agitate our substrate-bodies at a cellular level, a gradient of pressure that moves between substances with no ecology police guarding the door. Glennie says "we have to listen to ourselves first of all," an echo of the "Corpo vibrátil" or "resonant body" described by Brazilian psychotherapist and theorist Suely Rolnick, as the capacity by which all sense organs expand to "allow themselves to be affected by the impact of otherness."<sup>10</sup> Such a sensory dilation that intensifies the affective potential of perception could be imagined as the core of aesthetics and indeed, Rolnick describes this resonant body as the aesthetic experience itself, a vibrational plane of entanglement that accounts for all the

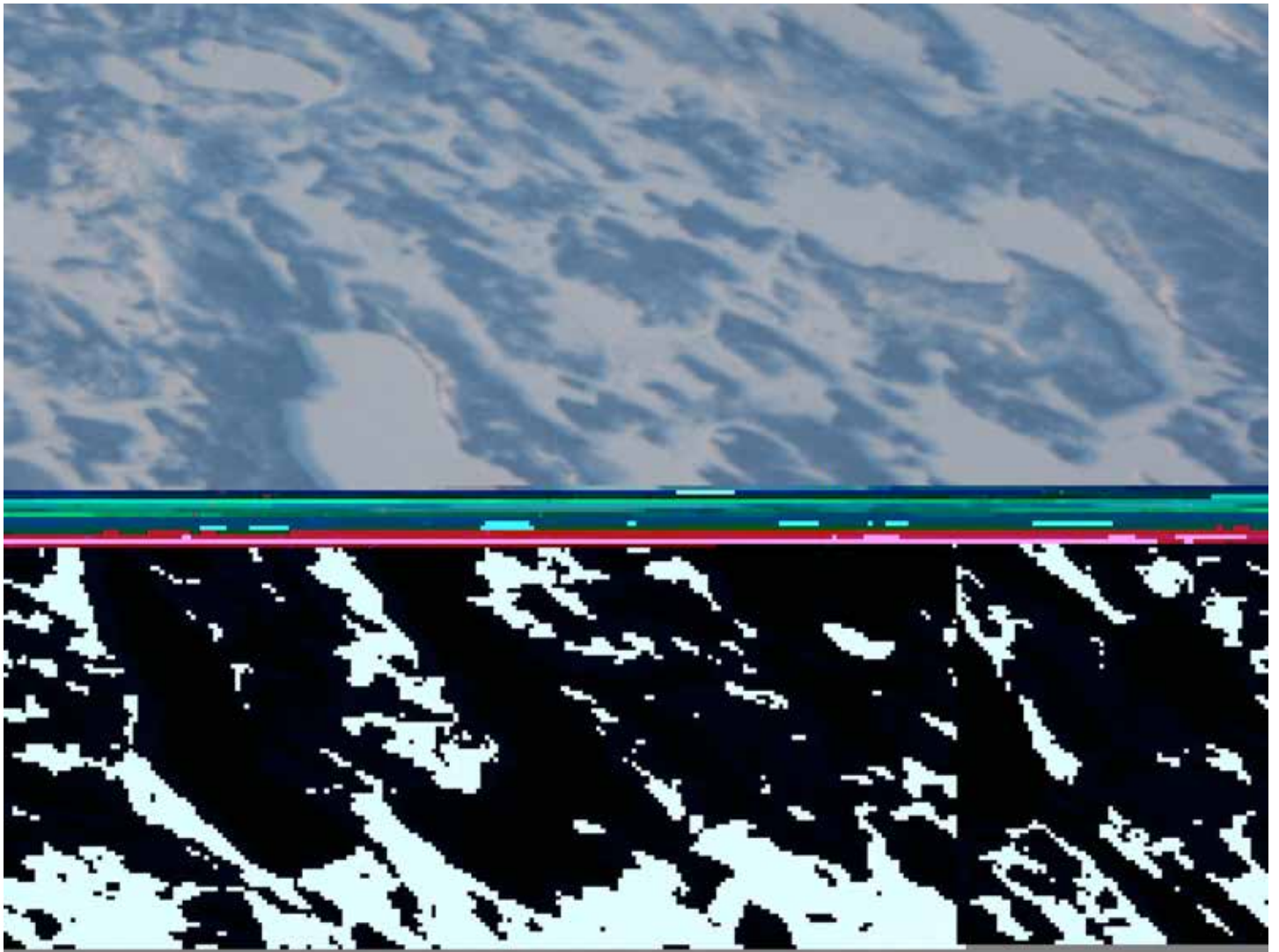
materials we handle and surround ourselves with.

Where does this resonance take place? Although Rolnick describes a singular resonant body, complex organisms such as we animals are truly evolutionarily symbiotic aggregates of millions of species of bacteria and fungi, many of which once lived independently in substrates like mud and water. Lynn Margulis, the biologist whose work on mitochondrial DNA opened up this long abandoned field of evolutionary symbiogenesis, speculated late in her career that microorganisms were capable of perception, memory, and forms of knowledge, including emotions. Returning to the sounds in my office, I wonder how they resonate in the bodies of my bacterial and fungal co-constituents and inhabitants. I wonder if they are immersed in an aesthetic experience that leads to my own subjective sense of being crowded out.

It's certain that the way the HVAC affects me is incidental to the functioning of the system, a misunderstanding. I listen and it turns on my paranoia. JJ Gibson, the 20th century psychologist who studied perception, describes the process an organism uses to make a distinction between what is meaningful as an "affordance," something like a recognizable semiotic handle one can grab onto, regardless of subject object positioning. Affordances "enable both semiotic and material comprehension of the environment as embodied and within environmental constraints."<sup>11</sup> For Gibson, the reliable horizontality of the ground provides an environmental cue that invites us to crawl/walk, exemplifying perceptual learning that expands as it is prompted by environmental cues. Gibson claimed that environment is what motivates and determines perception, with meaning emerging from that which the environment visually "affords" the observer.<sup>12</sup> The microwave bell telling us that food is ready might also be thought of as an affordance, although we will still need to see or feel it to be sure. Again, when we hear something, seeing helps us determine what it is and its spatial relationship to us. But Voegelin suggests that such visual verification also locks us into a semiotic field of language.<sup>13</sup> Does this deny us an imagination of the vibrations of the microbial, the nameless thousands of bacteria that are part of that process? Excluding parts of a world or system is a pragmatic strategy for classification, but it leads to other kinds of misunderstandings, such as barricading the inevitability there is more than can be accounted for. Misunderstanding then is a cue of ecological complexity, as it offers an outline of cultural expectations of communication –and the recognition there is always more, even something messy, outside of that data set.

In 1910, Hazrat Inayat Khan sailed from India to the west to disseminate the teachings of Chishti Sufism, and their emphasis on a practice he thought deeply resonated in all religions, which was the use of breath and sound. Khan's embrace of sound emerged from his own practice as a musician, leading him to assert that all bodies vibrate and produce sound. In mystical Sufism, Zikr (or dhikr) refers to the meditative recitation of short devotional phrases affirming the existence of the beloved/God. Phrases are spoken or sung aloud or in silence, alone or with others, in which case they orchestrate layered and over-tones. The drone of zikr is a profound example of reciprocal sound production that has the effect of diminishing the sense of separation and individualism, as participants tune their instrument-bodies toward each other. Misunderstanding and anxiously snared within the office chorus, I begin to sing with it, attempting to align it with zikr, but there is no beloved to be found. The HVAC's song is the song of a thing, of many things.

Graham Harman, a philosopher who thinks about the constitution of things, suggests we might describe all those parts that constitute my HVAC as an ontography, a list of objects that share liveliness as well as relationships between each other that may be unavailable to me.<sup>14</sup> As an unordered list that through juxtaposition, proposes new relations, Ian Bogost points out it is inevitable poetry: coils,



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ducts, corrosion, rust, seams, dust, galvanized coating, strapping, fan blades, gratings, barricading filters, dust, a motor, lungs, alveoli, moisture, spring, crimps, and so forth. The intentional function of the system is to move, filter and adjust air temperatures which indeed also move through me and take my exhalation elsewhere. The sound it makes is incidental, as it performs its work as a conditioner. The HVAC office complex conditions me, my cells, my mucus, you too, as well as my sense of what constitutes companionship as daily I tune to it, and as it tunes to me. To condition is to produce regularity. As conditioning, media are confined, filtered, dehumidified, regularized, separated— events of conditioning conducted inside my own body mucus membranes, bones, numbing.

If language is intrinsically connected to the visual, as Voegelin attests, the HVAC might be translated into a representational image, a flow chart that describes its operation. Understood only as noise, it identifies its alien nature through sounds that are intelligible but unfamiliar in the sense of uncanny. If I contextualize this sound as a social phenomena, there is much to learn from it about what is a job or an office, about the lives of materials and substances that are only incidental to my work, about the building construction and the time spent “earning a living.” If it seems these questions are too obvious or irrelevant or difficult to acoustic ecology, we miss a modest opportunity to grapple with the intrinsically auditory—and ecological nature of any environment. In an essay called the “Language of Things,” Hito Steyerl invokes the spirit of Benjamin in order to demote the representational power of the documentary. “How do humans relate to the world?” she asks, arguing that it is not the realism of what is portrayed

in a scene that matters as much as the relations between objects that undergo experience. She calls this relationism “presencing” in order to underscore its movement and capacity to “transform the social, historical and also material relations, which determine things.”<sup>15</sup>

Steyerl asks that we make something of our noticing, to move beyond listing in order to note misunderstandings and to ask questions about the texture of relations, perhaps the feeling of being pulled into the drone of the machine. What indeed are the stakes when the clamor takes place at a molecular scale? Sound orients us, and when we can’t turn away from a sound, the biological vulnerability of our bodies comes to the fore as anxiety until we can see what it is, give it a name. The turbulent rushing sound in the office is always presencing, registering our own liquidity to the degree that we are in suspension, bodies within bodies, not unlike what is in other contexts described as sublime: the sounds of tornados, death metal, turbines and hygiene up close. Like potty training, I conjecture we experience this pressure as a form of infantilizing discipline that conceals an understanding of meaningful environmental boundaries. But where is our understanding of this margin concealed? Going outdoors in order to listen to, perhaps record birds, trees, grass in the wind, the spatiality of outdoors, the distant train or refinery, even the bark beetles is to extend our imaginations into the lives of communities. Reaching into the vocalizations of others from afar, we imagine their experience and exercise empathy. It is possible, however, this practice keeps political urgency at a distance too. Morton would say we think there is a world out there instead of a blur we are inside of, because a background lets us imagine the solidity our own edges.<sup>16</sup> From a safe

position we can speculate without suffering. To listen within the office is to be confronted by conditioning as a boundary of the knowable, a political line that muffles the many: fungi, plants, humans and animals, inanimate objects, ten thousand bacterial species, the casual positioning, badly tuned, conditioned discomforts—and pressurized facts of relationship of all the others that are not human. The risks are in the possibility of aesthetic—as feeling—and resistance.

## About the Author

SARAH LEWISON is an artist, writer and activist concerned with political ecology. Her research based projects use play, dialogue and media to direct attention to instrumentalization and power, and to the affective presences of labor, materiality, gendered performance, law, and the mattering non-human. Her work has been presented and published in the US and internationally, including Documenta13, Smart Museum, Wattis Institute, MOCA Detroit, and Den Frie Udstilling. She collaborates with the Compass collective in the midwest US, and her son, performance artist duskin drum. Her essays about media, sustainability and culture appear in *An Atlas of Radical Cartography, Failure!* (LA:JOAAP Press), *Tema* (Denmark), *Journal of Northeast Studies* (Hamburg), *Area* (Chicago), *Journal of Aesthetics and Protest* (LA) and *Third Person* (MIT Press). Currently she is an Associate Professor in the College of Mass Communication and Media Arts at Southern Illinois University.

## Endnotes

- 1 Hazrat Inayat Khan, *The Teachings of HIK, Volume 2, The Mysticism of Sound*. Accessed online at <http://www.hazrat-inayat-khan.org/php/views.php?h1=11&h2=>
- 2 Timothy Morton, “Unsustaining,” *World Picture Journal* 5 (Spring 2011), 6. Morton ongoingly develops critical ways of thinking about foreground and background in several publications, and acknowledges Graham Harman’s writing on this as well. Harman complicates the dualism of foreground and background in regards to media in “Everything is not concerned,” a transcribed talk in *Bells and Whistles: More Speculative Realism*.

- 3 Salomé Voegelin, *Listening to Noise and Silence: Toward a Philosophy of Sound Art*. (London and New York: Continuum, 2010), 11.
- 4 Voegelin, *ibid*.
- 5 Voegelin, *Listening*, 29.
- 6 Peggy Hill, *Vibrational Communication in Animals*. Cambridge, MA. (London: Harvard University Press, 2008), 3.
- 7 V. Norris, and G. Hyland, “Do bacteria sing? Sonic intercellular communication between bacteria may reflect electromagnetic intracellular communication involving coherent collective vibrational modes that could integrate enzyme activities and gene expression,” *Molecular Microbiology* (1997) 24(4), 879–883.
- 8 Andrew Pelling, Gralla Sehati, and Gimzewski Valentine. “Local nanomechanical motions in the cell wall,” *Science* 20 (Aug 2004). Vol. 305, Issue 5687, 1147–1150, [http://science.sciencemag.org/content/305/5687/1147.abstract?ijkey=02cc45509ac86294a38a228ebf87eca0bbf5213d&keytype=tf\\_ipsecsha](http://science.sciencemag.org/content/305/5687/1147.abstract?ijkey=02cc45509ac86294a38a228ebf87eca0bbf5213d&keytype=tf_ipsecsha). Listen here: <http://www.darksideofcell.info/composition.html>
- 9 Evelyn Glennie, “How to Truly Listen,” TED2003 (Feb 2003), [https://www.ted.com/talks/evelyn\\_glennie\\_shows\\_how\\_to\\_listen](https://www.ted.com/talks/evelyn_glennie_shows_how_to_listen), accessed 13 November 2013.
- 10 Suely Rolnick, “The Body’s Contagious Memory: Lygia Clark’s Return to the Museum,” Translated by Rodrigo Nunes. *European Institute for Progressive Cultural Politics, Transversal, extradisciplinaire* (Jan 2007), accessed at <http://eipcp.net/transversal/0507/rolnik/en>.
- 11 James J. Gibson, *The Ecological Approach to Visual Perception* (New York, Taylor and Francis, 1997), 128–9.
- 12 James J. Gibson, *ibid*.
- 13 Voegelin, 124–127.
- 14 Ian Bogost, *Alien Phenomenology, or What It’s Like to Be a Thing*, *Posthumanities* 20 (Minneapolis: University of Minnesota, 2012), 36.
- 15 Hito Steyerl, *The Language of Things*, *European Institute for Progressive Cultural Politics* (under translation, June 2006) <http://eipcp.net/transversal/0606/steyerl/en>, accessed 6 June 2016.
- 16 Morton, “Unsustaining.”



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