

ON THE INNER-PERCEIVED SOUND OBJECTS

“Poets often introduce us into a world of *impossible* sounds, so impossible, in fact, that their authors may be charged with creating fantasy that has no interest.”

Gaston Bachelard¹

Some individuals perceive a wider amount of sonic information from *out of*, and *within*, the body. Pauline Oliveros describes the sonic envelope of the earth, the sonosphere, as made of resonant frequencies that couple bodies to the earth's magnetic fields, feeding each other: “All cells of the earth and body vibrate”.² Bodily effects of inaudible high frequencies and low frequencies, singled out or combined, stimulate a non-airborne auditory system activating a biological, non-neuronal and intracellular messenger apparatus. The revealed cellular changes to the brain thalamus and brain stem suggest that to base sensory knowledge on airborne sound conduction and the traditional notion of audibility – between 20 Hz and 22 kHz – overlooks important findings, as an ‘unrecognised sensing mechanism’ might exist.³

Life feels interrupted under the grainy frequencies of all sorts that reside inside and outside my skull. But there is a dot and its lines that kill thought. This is a diary of frequencies without dates, without cardinal places in the world but with points and lines within the cellular, a continuum of light and darkness that *it* wakes from short and dense slabs of sleep; *it*, a realm of sounds so unsound. My inner calendar is bounded by its presence and interludes when *it* goes to sleep, short nights. *It* may be tired to have yelled this tirade that annihilates my thoughts: they have no answers to calm *it* down. What does the constancy of its high pitch demand? To

be left out of the volume of my body's skull, free of its cortiliginous and bony borders? When *it* bounces linearly within *that* space is it to stay and change its pitch, to find comfort, or to flee? Will its voice deepen again?

Frequencies below 50 Hz are most often felt through internal organs vibrations as well as by bone conduction. However, the softness of the ear and the lungs would absorb rather than reflect sonic energies.⁴ Living bodies are viscerally ingrained 'with and by' sounds. Sounds reaching the skin organ can be felt as the lower frequencies vibrate and develop tactile qualities and fill an emptiness that resonates on the 'walls' of the sensory surface of the body.⁵

My thoughts need *it* to shift the tone of its demands, cells shiver off months of tiredness, to tire my body and mind by busyness in order to sleep. Thoughts and skin constantly interrupted: o wish to close o door, o pore, a cell, for *it* to abandon me, for me to reject *it* violently. *It* won't reach you through me, you will never be able to listen to us, the 'I' that we have become. I take my body for a walk around corridors, standing under door frames with plastic exit signs that yell under their green signage; sometimes they make *it* slightly shift inside. The fluoro light, caged under the plastic, can reach *it* through 'I': we are really only a porous 'one' but our cellular frequencies won't reach the outside. We hope to find together the frequency that will take *it* under its wing and propels *it* through the skull: away, simply away.

Our bodies respond to these dynamic and borderless forces in unidentifiable ways. Brains are wired to listen for pauses, internal signals and out-of-body auditory stimuli. What we do not hear, our brain is able to bring to life: continuous anticipation can rule the audio-cognitive apparatus. Neuronal queries and responses for *unfelt* tones and pauses, demand an 'introspection of missing sensations'.⁶ This electrical activity questions sensory audibility and sensory interrelations.

It has o *vocillating* name: *the rod*. *The rod* yells at me, opens my eyes, asks thoughts to interrogate the dark. Why doesn't it, *the rod*, leave its nest, just there straight up from my left ear? Why can't *it* drill its orc to the sky instead of staying around there, tensing a straight line that oscillates between points? Visions of Phillipe Petit on his high-wire line between the Twin Towers, o rod in the mist. Looking for an image, o movement that takes the piercing away from my temples,

from behind my eyes to beyond the present. *The rod* will leave, it has to. When, where? The 'I' that We are is growing impatient.

Are sounds 'public objects of auditory perception' and 'the acts of one thing moving another'?⁷ Would these notions then define sounds as spatio-temporal events that have an origin, are audible through their motion and provoke qualitative changes of different components? If the slowest disturbance of the medium is considered as the threshold of audibility, then the position of living bodies during the passage of such energy contributes to perception being circumstantial. Is an audience of one enough for a sound to become a 'public object', an authentic circumstance?

It could be the lights, the air conditioning units, the buildings, but if We move away shouldn't *the rod* sway and vacillate? Is the weather that makes *the rod* speak so fast without pausing? Is it the altitude, the food, others? Once *the rod* surfaced suddenly when o toddler from next door yelled in despair: his cry literally drilled my timpani, woke my whole body. That was not sound, that was o piercing death. *The rod* stirred violently. I thought it had gone away months ago. There is a dormancy, on unpredictability and defiance to *the rod's* supposed absence.

It is our skin and bones that can relay minute frequencies populating the world in and around us, and give us the impetus to move forward or away from places. Audibility relies on the skin although it is the inside ear that will primarily modify the orientation of its internal and external skin to sound vibrations. By the fourth month of pregnancy, the ears of the human foetus are the first completed physical sensors to become fully operational, although parts of the ear will take up to two years to mature. The auditory apparatus is of extreme and delicate complexity. Made of three distinct parts – inner, middle, external – its precocious development is directly linked to the evolution of the nervous system as part of the inner ear 'makes its way into the neural tube'.⁸

The rod has interrupted the darkness, birds start talking and I am clinging to their calls to silence *You, the rod*. I would like to shake you away; I need to be two again, *within* my skin and nerves. Where is this frequency that could separate us? I keep trying to take distance, to let *you* live. I am still trying to keep my eyes closed for longer, for my eyes to see a day that already is, rather than o night that *you* keep interrupting. I, the 'I' that I owned, needs strength to live with *you*

colonising me I feed the birds to bring them here at the edge of night and day, for their words to distract me while you try to take over my inner mind with your piercing and child'sh demands. Birds don't cry for my attention, they are generous to my senses, a gift from the light of day You the rod radiate from within me but the outer world's deaf to your calls and you give no pleasure to our souls You belittle my listening to others: tones hurt, words bristle, the blur of time sharpens, patience dries. It aches, it burns, it pulses there, feel this arc. What else do you want, you the rod?

Affect is a pre-emotional and a-subjective state that allows the body to be part of environments without a hierarchy of sensations and cognitive promotion. Human perceptual sensitivity to action or movement is not defined by the stimuli that reach one organ only, as all traditional organs of reception, nose-ear-eyes-skin, are aware of events happening in and outside the body.⁹

Depending on the material context we are immersed in at any time, we will know instinctively *which silence* we are breathing, where and how fast we should run or how still our limbs should remain, which sounds should our skin accept or go through.

I cannot sense your purpose, *the rod*. I need to be two again, to reconnect with the feeling of sensing as 'my' one, to feel the edge of woollen silences led by gravity. An urge to feel the pause, to grab moments of discovery instead of walking your drill, it hurts to know it's elusive, that silence, lost under your needs. Drowned. There, I felt you just moved around the curved inside around my ear, why? Hear yourself there on the left, your stab, can't you sense your icy words? I talk to you sometimes, you the rod, always making clear that you are free to go, can't you feel that I need you to break free 'We' are not one

Human sound sensitivity is not subjective but is mainly appreciated in ways that require linguistic descriptions and numerical inscriptions. This approach to the evaluation of knowledge pre-supposes that perception includes cognitive interpretation.

What else have you taught me this year but doubting my senses. I fight you around my skull, cursing you the rod having to push the words of others as I try to kill your cries. I run into circles, up there under my hair, trying to bypass your

relentless yells to break the constancy of your whim. You the rod, mocking my world, playing with my cells and thoughts, mind and dreams. Please go. Where is this other frequency that might trample you? I took you underwater and still you stayed, floating and ready while I keep the hope that my ears will pop and expel you but I know that my ears are nothing to you, you live somewhere else. Your arc is suddenly getting longer and thinner, and now you've reached the other side of my inner skull

The inner ear membranous shell acts dynamically in the positioning of our bodies. Hair cells are essential to the analysis of the rhythms and frequencies of sound waves. The outer hair cells are more sensitive to the frequencies that are supposed to be unheard, therefore contradicting the common approach that humans have a limited range of audibility.¹⁰ The muscles of the middle ear also have a very important protective function as their voluntary, or involuntary, contractions can lower sounds' loudness by 30 decibels. These muscles that enclose the bones of the middle ear have to act in synergy in order to provide optimal hearing and bodily balance as what is true for the ear is true for the whole body: 'each one reveals the other'.¹¹

And then there are 'them', the distant sounds that are so near. I am still amazed that I perceive so clearly objects and vibrations that are so far I sense too well: others say 'we cannot hear: it must be in your head'. Christmas, lying on the pale beach of delicate sand, looking straight up at grey skies and hurtful light. The surf is high, the breaks are white and sharp, tumbling down straight when they reach the edge of land. People walking where sand and water meet. 'Help, help us' reaches me faint but clear like crystal over or under the breaking waves, there, touching my skin. Standing up, scanning, and then I see them. We run, a surf too strong for us to reach their hands We run towards walkers yelling for help but the wind stops our words, then the men's eyes follow our fingers pointing at the swimmers inaudible words Saved, they are shivering. Do I really hear too well the far bridging to the near despite the unwelcome guests that inhabit my skull, the bones that vibrate and tell?

Cells record and play even to an audience of one; there is a forgetfulness of their craft to reason for us, to sound for us. Hyperacusis and tinnitus are described as health conditions whereas the ability to see sharply, visual hyperacuity, is

socially and scientifically valued. Is it capturing the invisible from the *outside* to the *wishin* that makes health unreliable in the eyes of others? Has audio recording technology become a 'prosthetics' for purity, to master and measure in systematic ways, to regurgitate sound 'clean and clear' and hide impurities, a crystalline cycle without blemish? Should the copy be 'purer' than the capture, the Hertz circled and dompted, the decibels docile and powerful? Sound *is* dirty and corrupted when it reaches the skin from inside and outside; we tend the ear to decipher and parse the eye to confirm. But we also call for sound to confirm the eye by quantifying distance to define background and foreground, and maybe with the view to demarcating senses: do I see what I hear, or do I hear what I see?

Often our gaze is over 'there', our hearing is 'outside' enclosed spaces. Are our senses really disoriented when the body we reside in is a tonal emitter and receptor at the same time, when background and foreground waves are indistinguishable? Schizophonic recordings take the *outside* in, that is an outside phenomenologically defined by our envelope within a Cartesian system. Thoughts demand clear signals regardless of the sonosphere's state of turmoil, of its background eating foregrounded space: our digital ear and mouth absorb all, and recite clean tones and waves: are we desperate for purity? We want to listen together, thus excluding the frequencies that hurt; is it still 'listening' when there is an audience of one?

It is spring. Will you go? Maybe you needed a stronger nest this past autumn and winter, you might feel better now and leave me in the sun and heat. Maybe you'll find your siblings' frequencies while together we'll pass on overheating fridge or air conditioning unit. Its audible guardians might answer your call, capture your distress, your resentment, or magnet for your fields of anger. Your high pitch might jump away from my skin, like a whisper. Your lower and groiny friends will stay with me, as always, guiding the way to my ears. I know that their low rumbles and burrowed frequencies have built roads within me that, 'I' my own, cannot escape. Follow the sensory map, no detour if I don't want to lose my thoughts. Low frequencies imprison me almost softly but warn me without a yell: their territories run towards me, circling. Unlike you, they have now become beacons.

Scientists are sometimes deadpan when claiming that measuring noise sensitivity with standard questionnaires is enough to affirm that "a stable personality, with extroverted tendencies ... may be expected to better adapt to noise during mental

performance".¹² The mind might have little power over the unwanted sonic waves 'within my inside' fed by our noisy 'outside': should that be a negative and weak trait, a health issue, an incapacitating factor to discover the world, a 'negative ecology'? A performance?

But there is no room for the romanticism of silence, the glorified pause, for clear recorded sound, the utopic lucidity of listening. This noisy blur is an active silence that moves with gravity. Sometimes it stabilises itself, when foreground and background have melted as one, for an instant that cannot be measured, since even to count the time of an instant the 'mind must be active': it is and it isn't.¹³ So much alertness is needed to filter the borderless inside-out echoing with sounds of thoughts. The matter that is then neither felt, neither thought but so present, seems as a 'mindless state of mind, which is required of mind not for matter to be perceived, or conceived, given or grasped, but so that there be some something'.¹⁴

"Inside and outside are not abandoned to their geometrical opposition. From what overflow of a ramified interior does the substance of being run, does the outside call? Isn't the exterior an old intimacy lost in the shadow of memory?"

Gaston Bachelard¹⁵

Notes and References

- 1 Gaston Bachelard, *The Poetics of Space* [Poétique de l'espace]. Translated by Maria Jolas. Boston, MA: Beacon Press 1994: 176.
- 2 Pauline Oliveros, "Auralizing in the Sonosphere: A Vocabulary for Inner Sound and Sounding." *Journal of Visual Culture* 10, no. 2 (2011): 162.
- 3 Tsutomu Oohashi, Norie Kawai, Emi Nishina, Manabu Honda, Reiko Yagi, Satoshi Nakamura, Masako Morimoto, et al. "The Role of Biological System Other Than Auditory Air-Conduction in the Emergence of the Hypersonic Effect." *Brain Research* 1073 (Feb 2006): 344.
- 4 Jurgen Altmann, "Acoustic Weapons - a Prospective Assessment." *Science & Global Security* 9, no. 3 (2001): 182.
- 5 Brian Massumi, *Parables for the Virtual, Movement, Affect, Sensation*. Post-Contemporary Interventions. Edited by Stanley Fish and Fredric Jameson. Durham, NC: Duke University Press, 2002: 14.
- 6 Roy Sorensen, "Hearing Silence: The Perception and Introspection of Absences." Chap. 7 In *Sounds and Perception: New Philosophical Essays*, edited by Matthew Nudds and Casey O'Callaghan, 126-45. Oxford: Oxford University Press, 2009: 131.
- 7 Casey O'Callaghan and Matthew Nudds, "Introduction: The Philosophy of Sounds and Auditory Perception." Chap. 1 In *Sounds and Perception*, edited by Matthew Nudds and Casey O'Callaghan, 1-25. Oxford: Oxford University Press, 2009: 27.
- 8 Alfred A. Tomatis, *The Ear and the Voice* [L'oreille et la voix]. Translated by Roberta Prada and Pierre

- Sollier. Oxford: The Scarecrow Press. (2005): 45.
- 9 James Jerome Gibson, *The Senses Considered as Perceptual Systems*. 1983 ed. Westport, CT: Greenwood Press, 1966. 1983. Houghton Mifflin (1966): 34.
 - 10 Salt, Alec N., and Timothy E. Hullar. "Responses of the Ear to Low Frequency Sounds, Infrasound and Wind Turbines." *Hearing Research* 268, no. 1-2 (2010): 19.
 - 11 Alfred A. Tomatis, *The Ear and the Voice* [L'oreille et la voix]. Translated by Roberta Prada and Pierre Sollier. Oxford: The Scarecrow Press, (2005): 53.
 - 12 G. Belojevic, B. Jakovljevic, and V. Slepcevic, "Noise and Mental Performance: Personality Attributes and Noise Sensitivity." *Noise & Health* 6, no. 21 (2003): 86.
 - 13 Jean-François Lyotard, *The Inhuman, Reflections on Time*. Translated by Geoffrey Bennington and Rachel Bowlby. Stanford, California: Stanford University Press,(1991): 140.
 - 14 *ibid.*, 140.
 - 15 Gaston Bachelard, *The Poetics of Space* [Poétique de l'espace]. Translated by Maria Jolas. Boston, MA: Beacon Press (1994): 230.