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An Investigation into the multiple bodies of sound, working towards a positive silence

My studio practice as of recent has been revolving around sound; I have been examining its multiple uses and relationship with music, noise, and silence, cross-relation with video through audio experimentations. This led me to a few queries at sound. Its role in shaping communities, its role in triggering unconscious memories, its role in re-activating spaces, and how it can introduce new grounds for perceiving duration and time. An underlying problem I discovered is that the visual has dominated the field of perception for a long time, especially in art, and increasingly more so as our brain adapts to depend more on the visually stimulated world right now. Since then, I have learnt to shift away from viewing sound as an accompaniment to something physical to regarding sound as a material on its own. In an attempt to further understand sound, It's important to dive into the recorded origins of sound, from the primeval natural soundscapes to mythological than human-made soundscapes, as I'm increasingly more aware that sound and silence are in constant motion after studying Pauline Oliveros and John Cage's work, this dissertation's main discussion will be surrounded on sound's possibilities as a medium and beyond. Looking at the multiple bodies that sound has, how it could invite and open new dimensions for perceiving, not solely in art terms but also as a constant flux of power that underlies our existence, as well as the pivotal role it has in shaping acoustical communities. I will first define what sound, noise, silence is and introduce ways of listening, discussing the impact of human-made noise on our environment. Sound's relation with sound art will be discussed through works by John Cage and Max Neuhaus. Followed by examining our physical/acoustical communities, discussing its imbalance right now, and where it can be taken to in the future.

To begin the discussion. I will first define what Music, Sound, Noise, are to establish a footing of the investigation into hearing and listening. I will briefly outline the basic thinking for music, which paved the basis for the future studies of *sound*, as shown from the Greek told by Pindar in The Twelfth Pythian Ode¹ and in the Homeric Hymn to Hermes². In the first of the lore, music's origin can be understood as a subjective emotion. When Medusa's sisters screamed piercing heartbroken cries after Medusa's beheading, Athena was touched and offered a *nomos*³ to honour them. The second of the myths involve Hermes inventing the Lyre after discovering that a turtle shell can be used as a source to generate sound. "Music is thus conceived to be sub representational, a primitive eruption of desire and emotion, or super representational, pure mathematics"⁴. These two views on music were the basis for the study of it.



Figure 1. A pentatonic lyre , image from;
<https://www.ithacanmythologies.com/the-pentatonic-lyre/>

¹ Poem For Midas of Akragas, Winner in the aulos playing match in 409

² Hymn IV, part of a greater collection of Homeric Hymns written by multiple authors which were tales of epics with narrative sections. The discovery of the turtle and technique used to make the lyre were described in detail. Hermes used Apollo's cow intestines to structure the lyre, the shell as the body.

³ She created *the many headed air*, an aulos (flute) piece, which started the art of aulos playing

⁴ Cox Christoph, *Sonic Flux* p19

If we follow this thought process on the Greek examples, the aulos was invented out of emotion, whereas the lyre was about activating nature's material qualities. In the Greek Dionysian/Apollonian opposition. Music is believed to come from one's inner body, breaking out to the external. At the same time, the Apollinian view considers music as an external signal coming from higher-powers. Dionysian music is often expressive, full of subjective emotions, fluctuations in harmonics and timbres, and movement, filled with the sound of romantics with ecstasy and excess, whilst Apollinian music is still, enlightening, and exact, filled with moderation and control, seeking to attune the world harmonically through number theory and maths. Consequently, the lyre is of dionysian origins and uses, and the lyre Apollonian. Nietzsche checks and views the Dionysian/ Apollonian as artistic energies that burst and come from nature itself without human intervention. Therefore he views art to be products of nature, as nature is the artist and art is a part of "imitation of nature" not because it's work that's visually comparable to nature, rather a re-construction of nature's creative impulses.⁵ To Nietzsche's point, I believe this natural flux of dionysian energy is exemplified in music, moreover other artistic practices like writing/painting because it renders the forces that lead to becoming an audible degree and more.

What is considered Music? it would have been thought to be impossible to separate the term sound from music not long ago. "If the Word *music* is sacred and reserved for eighteenth-century and nineteenth-century instruments, we can substitute for a more meaningful term: Organization of Sound"⁶ We need more people to understand music as part of sound and silence, not its own entity. More specifically, music can be understood as sound tuned harmonically, applying scales, intervals, harmony, and melodies to achieve a pleasing effect on our ears. It's fundamentally a collection of sounds that sounds good. Sound exists everywhere, our time as a human is never spent silent, from the watery wombs of our mothers before birth to the last sound we hear before death.

⁵ Expressed in *The Birth Of Tragedy from The spirit of Music*

⁶ Cage John, *Silence*

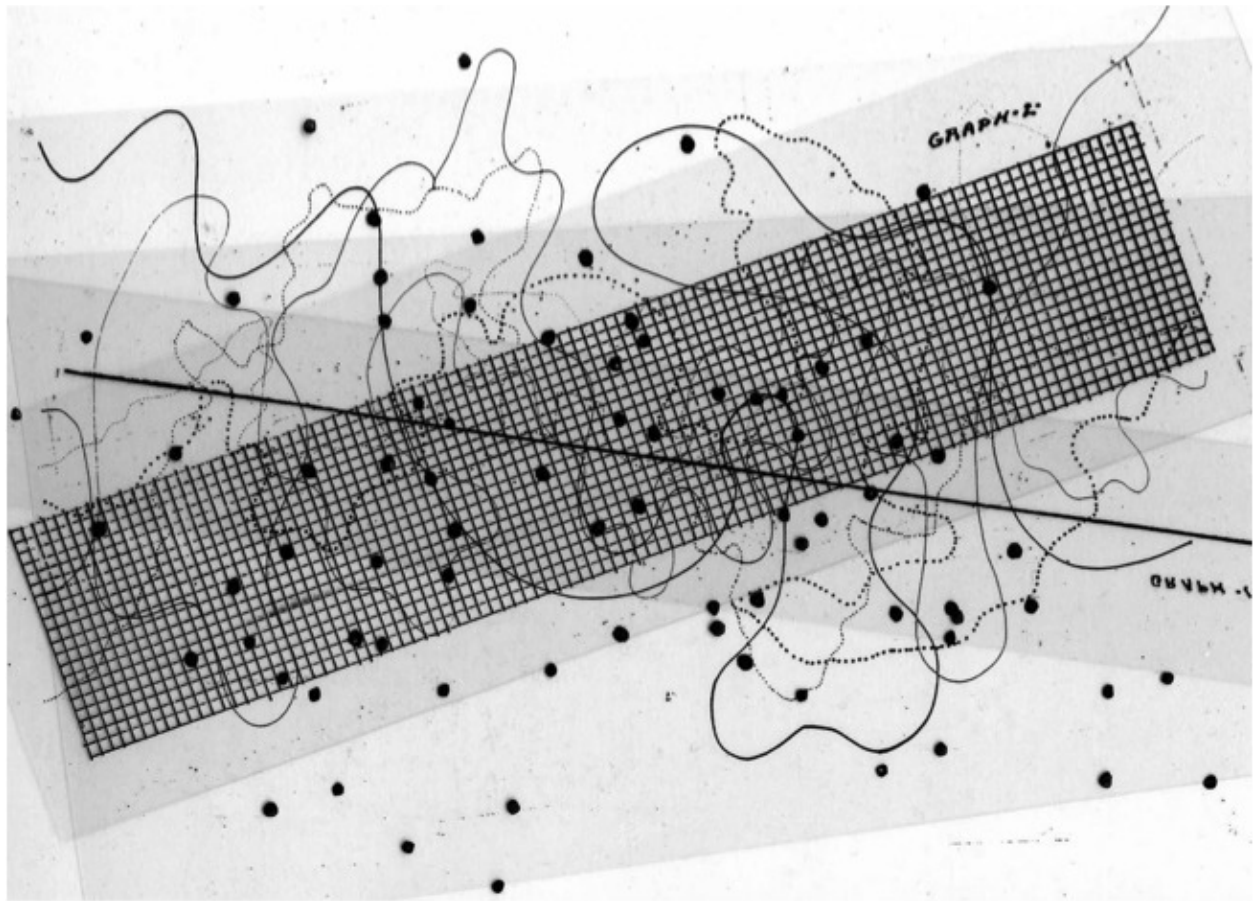


Figure 2, John Cage's way of visualising sound, this is the notation for his piece Fontana Mix (1958), image: <https://medium.com/@nghinghiem04/fontana-mix-1958-john-cage-3145720-b66c2ab3ceca>

When John Cage entered the anechoic chamber⁷, a chamber designed to block out all sounds and echoes, Cage experienced this humanmade silence; he heard two pitches, one high one low, which Beranek and Sleeper then told him was his nervous system operating and his blood circulating⁸. We will go over silence in more form and depth later on.

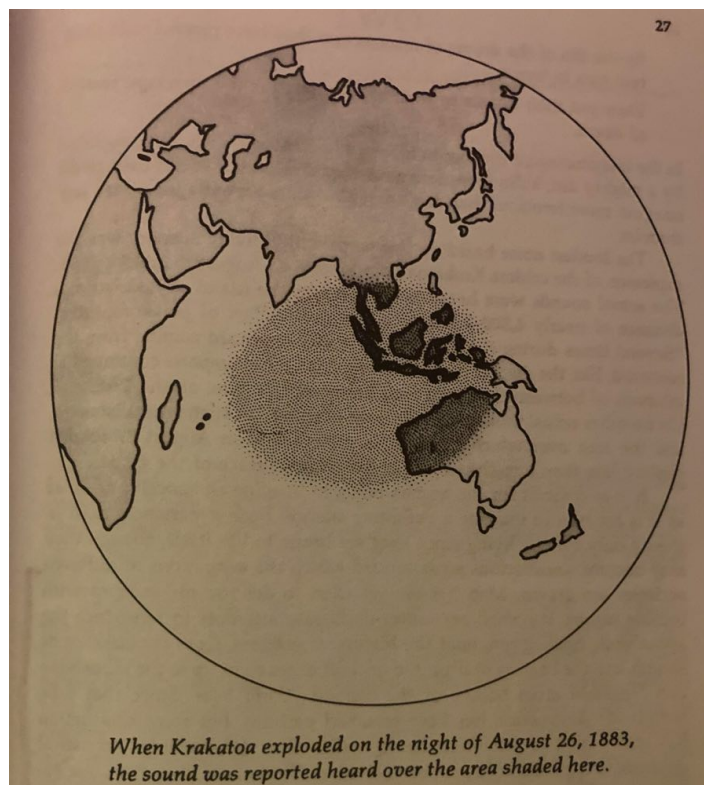
⁷ His experience is described in p8 of *Silence*. The anechoic chamber was actually first of its kind built by Leo Beranek and Harvey Sleeper. The chamber is very quiet with sound travelling out and no sound coming back at all, the decibel levels are low enough to go under the threshold of hearing, with some experiencing disorientation well first entering.

⁸ Cage could have had symptoms of Tinnitus, or spontaneous otoacoustic emissions mentioned by David Toop in his book.

Sound is a never-ending stream of “data” which most of us never properly process. By that, I mean the sounds we register are often partial, that there is insufficient engagement at recognizing the source as awareness to sound has been narrowed in us, this must do with how our brains have adapted to certain living conditions.⁹ The sounds we do not wish to hear or regard as unpleasant are automatically categorized as noise. Also, sounds that do not appear of direct relativity to us at the moment are all discarded. Taking an example from the sound of the sea, its waves contain complex and varying modes of shifts in timbre and properties but are often regarded as noise to the untrained ear or someone who lives by the ocean. The same goes for the sound of cars passing by at night, to the sounds generated by construction, and many more things we hear but disregard. But some keynote sounds are stored virtually forever unconsciously. Think about the sound of time, the sound of childhood, the sound of the city, the sound of happiness. You should have a faint to strong relocation of these sounds, and each person would be different.

Figure 3, the mapping for displaying how far the sound of the volcano Krakatoa eruption can be

heard. Image from; p27 *The Soundscape*, Schafer, M.



It is also apparent here that sound can be spatial and non-temporal. Loud sounds can stretch out in all arrays; there is a certain power to the loudness, a fear almost. The sound of water crashing down from Niagara Falls can be heard 45 kilometers away, wrote explorer Peter Kalm in 1751. The entire population of all organisms within this 45 km radius receives the sound in a different space-time continuum and relates it back diversified. From this account, we can

⁹ Urban areas are especially unhelpful to this narrowing of registering sound as noise pollution and general db levels are rising meaning the soundscape we will be receiving will be muddy with a lot of man-made interference.

see that sound can also be heard as cues to reference specific Locations and/or Regions. So Sound is this ever-flowing material, with new artefacts sprinkled in constantly. It's an ever-growing flow, independent of the materiality of objects. As Deleuze says, "One can... conceive of a continuous acoustic flow... that traverses the world and that even encompasses silence¹⁰ . But how? We should now discuss modes of listening and why the modern man is so "deaf."

There has always been this Hierarchy within the senses, with Seeing and Touching being our main ways of feeling present and connected with the world. Listening has always been a sense that is about bringing in information, as opposed to expanding out. Nowadays, seeing is believing, whether from reading early texts or acknowledging the visual representation of God. "It was not till the Renaissance that God became portraiture, previously he had been conceived

¹⁰ Gilles, Deleuze *Vincennes Session of April 15, 1980*

of sound and vibration.”



W.Kandinsky *Impression III (Concert)*

If hearing was the main sense utilized by our ancestors, why has it been left behind? Still, to this day, some tribal societies have kept the way of listening because their way of living is very much still embedded with sound (ceremonies, musical cues) It could be that to develop, modern societies have learned to live with the noise of machines¹¹, and a myriad of sounds, from the hissing steam from rusty vents to the constant low hum frequency bouncing off hard surfaces. The importance of visuality has been bolstered so much that most people have learnt to/forced to abandon the old ways of listening. The ear hears, the brain listens, and our bodies react to the vibration of sounds. The most basic level of listening, as described by Roland Barthes in his

¹¹ Post-industrial revolution

essay *Listening*,¹² is hearing. A passive and non-attentive process, a natural process where our ears reflect on the “index” of a sound “that either reveals danger or promises the satisfaction of a need.”¹³ Viewed by him as a primal way of listening. He calls the second way of receiving sounds “listening.” A process where the mind and soul is engaged and “deciphering, interpreting a meaning not on the surface but “hidden, obscure, and secret”¹⁴. Meaning that you’re actually paying attention. He calls the third way of listening a “dispersion” “a shimmering of signifiers” whilst referencing John Cages’ works. Barthes theory on ways of listening is traditional in a sense because he accepts that in addition to the sound generated and the organ receiving it, “a soul (self, subject) is necessary to apprehend, grasp, synthesize, and interpret what is passively received by the body.”¹⁵ Materialist theories challenge this view in a sense that the self is merely a result of perception and not a presupposition of it. David Hume outlines the self “is Nothing but a bundle or collection of different perceptions which succeed each other with an inconceivable rapidity and are in a perpetual flux and movement.”¹⁶ Sound’s role in this flux and movement will be discussed if we reject the traditional theory that a subject is needed in order for matter to manifest, we will need to open up to the idea that everything in the world is in itself synthesizing and constantly manifesting and evolving, and that for Nietzsche, the idea of the “soul” is but a struggle for dominance among the myriad drives, affects and instincts of which the human subject is composed.¹⁷ The idea of consciousness resulting from habits is brought forward by Samuel Butler, he believes that man, nature, animals are a unity. He points out that one is only conscious of what he has not mastered yet. The rest is unconscious habits memorised. For Deleuze, habits are not personal. Instead, they act on every scale from the micro to the macro. Essentially, Nietzsche, Deleuze, and Guattari share a view that entities do not require a soul or subjects, that these qualities are secondary and are added onto the process of natural synthesis and becoming. That everything is “habitual, contractive, (and) contemplative.”¹⁸

¹² Available here

<https://planninganalyzingthings.files.wordpress.com/2012/03/barthes-roland-22listening22-from-responsibility-of-forms1.pdf>

¹³ Barthes, R, *Listening* p247

¹⁴ Barthes, R, *Listening* p 245

¹⁵ Cox, C, *Sonic Flux*, p80

¹⁶ Hume D, *A treatise on human nature*

¹⁷ F, Nietzsche, *Writings from the old Notebook S14*

¹⁸ Cox, C, *Sonic Flux* p83

The passive vitalism¹⁹ Deleuze does not dwell on attribution in life, or it's maintenance. Thoughts or ideas (art, writing, music) that egress has a life of its own astray from one. This thinking has been affiliated with the materialist way of listening, in which one needs to recognize everything is a recording object for nature. The diminutive habits and contractions work the same way when we hear music. Notes only turn into music in the event that they are struck in succession.

On Listening, Silence

“Now I will do nothing but listen... I hear all sounds running together, combined, fused or following, sounds of the city and sounds out of the city, sounds of the day and night”²⁰.

Sound has a way of expanding dimension, Oliveiros, mentioned in a passage on multidimensional listening. A direct example would be to consider a conversation. The original conversation would be direct and intimate as the sound of the voice expands, more starts to register it, (public dimension). We actually register these dimensions unconsciously but are not aware that simply by listening we are taking in multi-dimensional sounds. By entering a state of deep listening²¹, there is no boundary on what sounds we register.

How often does a person listen like this? One might merely acknowledge this sound as noise, but if we allow our mind to truly listen and relax, there will be music in silence.

*The essence of sound is felt in both motion and silence, it passes from existent to non-existent, when there is no sound, it is said that there is no hearing, but that does not mean that hearing has lost it's preparedness. Indeed, when there is no sound, hearing is most alert, and when there is sound, the hearing nature is least developed*²². Kirpal Singh

¹⁹ Differs from traditional vitalism, where it was rejected because of no scientific grounds believing that there is a mysterious force driving life. Both Deleuze and Gattari saw nature as fully self synthesizing and that is all there is in the world. Deleuze also carried onto a materialist of viewing art from his vitalism.

²⁰ Quote from Whitman, W, *Song of Myself*

²¹ Her deep listening practice takes place as a form of meditation for the expansion of listening to include the entire spectrum of sounds in as many dimensions as possible and about coming in touch with the whole of the environment.

²² Kirpal is a master in Surat Shabd Yoga, Silence and stillness have been closely related to enlightenment in buddhist thinking as well.

Silence is significant as it's everywhere and is the basis of listening. As Oliveros points out in her book *deep listening*, “There is no sound without silence before and after” Thinking about the anticipation for sound after silence, sound resonates and is empowered by the absence of sound. “There is no absolute silence unless there is zero vibration. Silence means we can hear no sounds, Silence is the space between sound”²³ Indeed, silence is a constant flux in movement the same as sound, and as noise it is subjective, but there is no total silence as silence is approximate, people fear absolute silence, for that is in death. Through literature, we can tell that silence is an unwanted element for the modern man, in a dialogue, where there is silence, one would be sure to fill the silence in whatever way. The whole idea of stillness and eternal silence is frowned upon generally. Notice the way that modern writers describe silence. “ Solemn, oppressive, deathlike, numb, weird, awful, gloomy, brooding, painful”²⁴ and the list goes on, also consider how western lexicography takes part in connoting silence from thesaurus.com (world's leading site

mute , restrained, reticent

bashful, buttoned up ,checked,

clammed up

close

closed up

Struck dumb

Taciturn

Tongue-tied

Unclear

uncommunicative

unheard

²³ Oliveros, P, *Deep Listening* p14

²⁴ Cox, C, *Sonic Flux*, P 146

*Unsociable,
Unspeaking, voiceless,
Wordless,
Zipped
Is silence.*

It is due to the gradual loss of silence we begin to value silence again. The increased levels of sonic vibrations compels us into remembering the days of retreating into the wild, away from noise and being at peace and one with the world. Silence is often needed to achieve a level of “concentration” observed as in libraries, private study rooms, personal quarters. This “stillness” is highlighted by Lao Tzu, “Give up haste and activity, Close your mouth, only then will you comprehend the spirit of Tao”²⁵ Being still and silent is bound to open one up to the constant unravelling world, where there is time for everything. The value of silence must be valued again and to do that quietude and silence must be reintroduced as positive forces. Taking days of mourning, for example, silence achieves a profound sense of unity and connection within individuals. Thousands of people gathered. The importance of past events is highlighted with silence, for a brief and rare moment, the noise projected by chatter and machinery came to a halt. The stillness returns and a sense of solidarity is felt.

We hear less than people in the past, whether from the advancements of technology, or/and due to cultural and social conditioning, our listening patterns have adjusted unconsciously. In the following paragraph I will discuss how we perceive noise and further on its relation with “sound art” First, a definition of noise is needed,

²⁵ Quote from Lao Tzu From *R Murray Schaefer's The Soundscape* P258

*Noise is the background hubbub of life, the ceaseless sonic flux, the hum of fluorescent lights, the rusting of leaves or fabric, the sound of traffic, radio static. It is from this background that any signal comes to the fore, temporarily drawing our attention to it and away from the background noise.*²⁶

The essence of noise is accounted for in many accounts.

*Background noise is the ground of our perception, absolutely uninterrupted, it is our perennial sustenance, the element of the software of all our logic> It is the residue and cesspool of our messages.... It is to the logos what matter used to be to form. Noise is the background of information. The material of that form... Background noise may well be the ground of being.*²⁷

Dictionarily, noise is regarded as a sound, especially when it is loud, unpleasant, or disturbing²⁸. We can categorize noise as; unmusical, unwanted, loud, sounds, disturbance in signals(static in radio). When we look at this definition, we need to deduct each person's experiences and accounts for noise differently, what one regards as noise can be music to another's ears, noise is a subjective term. Here I would like to draw a link to Gottfried Wilhelm Leibniz thinking on the unconscious and conscious. In an example

*Each soul knows the infinite- knows all- but confusedly. It is like walking on the seashore and hearing the great noise of the sea: I hear the particular noises of each wave, of which the whole noise is composed, but without distinguishing them. But confused perceptions are the results of impressions that the whole inverse makes upon us; it is the same for each monad.*²⁹

From this example we can deduce our perception is evidently clear when we hear the waves of the sea, caused by the vibration and movement of each individual wave. We register the sound as

²⁶ Cox, C, *Sonic Flux* p115

²⁷ Serres, Michel *Genesis*

²⁸ Definition from Oxford Learner's Dictionary

²⁹ G. W. Leibniz, *Philosophical Essays* 211

a whole, but our perception is also confused/ obscure because we fail to distinguish the individual waves. “What is clear, then, is also confused; and what is distinct is also obscure.”³⁰ We perceive everything unconsciously, but most of it fails to reach our conscious thought. This is Leibniz’s idea of *minute perception*. These unconscious perceptions of virtual *existence*. It is the same with memory, most of our memories have a *virtual existence* unless brought up by a particular event (sound included) and reaches actual existence again. Think of the possibilities that sound can have on our virtual banks. If we put Leibniz’s theory in sound terms, we are constantly registering sound, (white-noise, silence). We fail to acknowledge the existence of them (confused hearing) and only do when an artefact stands out as a clear signal like speech or music. What is then achievable if we can conceive of noise clearly? In another example, Leibniz describes a man living near a waterfall but no longer distinctly hears the sound of it. He does not perceive the sound consciously anymore, because it has become background, and ordinary. By comparing to the previous example, here the entire field sound is not heard anymore because it has become ordinary, in the case of the waves, minute parts of the sound are not heard. We can conclude that noise is not a sum of signals, but is a thread capable of linking relations until it reaches a threshold which then signals are actualised from.

The rise of human-made noise

In the modern world, we have grown accustomed to noise. New roads being built, new ground being dug up, old buildings torn down, the cycle continues. Not to mention the sound of that motorcycle through late night and early morning, the whirring of helicopter blades and much more. More or less the noises we hear daily are actually less than what is actually being generated, as I mentioned earlier it is the result of these sounds becoming background, and ordinary. The act of measuring general noise levels would prove to be problematic and ineffective as it not only is expensive, it would require myriad measurements and careful readings in multiple areas, even then the readings would not be meaningful as repeated measurements would need to be done in identical locations and equipment later on. As part of Schafer’s world soundscape project, he suggested measuring the sound signals of the community. “The assumption would be that the level of ambient noise would rise in proportion to social

³⁰ Cox, C *Sonic Flux* p116

signals, which must always remain above it” They measured the sound level of different fire engine sirens in Vancouver. The 1912 La France had 88-96 dBA, with the 1974 one having 114dBA. “This showed that the signals of emergency vehicles had risen some 20 to 25 decibels in sixty years, or nearly half a decibel per year of the average. Now a decibel is a logarithmic term, 3dB would be around a doubling of the energy, so half a dB a year is a considerably large influx. Prolonged exposure to sounds over 85 decibels would cause a temporary threshold shift (TTS) in our ears. In which sounds become faint for a few days, you might have experienced it after concerts and raves. If further exposed, permanent threshold shift (PTS) would occur and result in an irreversible inner ear damage.

We will go back in time now to discuss how the industrial revolution in the 18th century gave rise to new sounds and noise alike, and how it's impacting us right now. The sounds of the 18th century include new metals like steel and iron. Steam, and coal. Worth mentioning the combustion of coal is one of the reasons why our carbon dioxide levels are so high right now. The fossil fuel industry originating from this new discovery is one of the paramount factors of climate change right now, Carbon dioxide is logging a 50% increase in two centuries³¹. Competing with the rise in noise. The industrial era can be considered a starting time when we became obsessed with new energy sources and new machinery. Workers rushed in factories, with a sixteen-hour plus work time. The factories were major hot spots for the radiating noise never heard before. The people at the time did not like it, but had to slowly accept it and adapt to coping with new noise. We can see Stendhal’s ear witness account in *The Red and the Black*. Published in 1830

Scarcely inside the town, one is stunned by the rackets of a roaring machine, frightful in its appearance. Twenty ponderous hammers, falling with a crash which makes the street shudder, are lifted for each new stroke by the power of a water wheel...:

And in 1864 by the Goncourts

³¹ Krogh M, *an incomplete encyclopedia of the anthropocene* 112

A vague, indeterminate smell of grease and sugar, mixed with the emanations from the water and the smell of tar, rose from the candle factories, the glue factories, the tanneries, the sugar refineries. Which were scattered about on the quay amongst thin, dried up grass. The noise of the foundries and the screams of steam whistle broke, at every moment, the silence of the river.

Despite the thunderous noise, over-extending shifts, and dangerous working conditions, noise was never part of a formal complaint at the time, perhaps due to insufficient acoustic testing instruments, which made it impossible to measure sounds quantitatively. “When sound power is sufficient to create a large acoustic profile, we may speak of it, too, as imperialistic”³² There is this sense of power in loud sounds, before the machines, only catastrophic events would create such sounds, including earthquakes, avalanches, eruptions of volcanoes. Now man has the power to create such lesser sounds, being used to strike fear in enemies with the use of cannons, explosives, or merely for use of dominating less prevalent acoustic activities. “Wherever noise is granted immunity from human intervention, there will be found a seat of power.”³³ As industries grow, the sound resulting from it will grow as well, through many times of reckless technological advancements, the world has become overcrowded with noise. Our aural perception must be put to use in terms of planning acoustic spaces and considered for the future, for still it's not too late to tackle the noise issue.

In our time, industrial workers who would be at risk to these types of exposure don't have to because legislation has been passed to restrict the durations of work with the amount of noise they are exposed to. Still, non-industrial hearing loss termed as *sociocusis* is apparent. Another research conducted as part of the world soundscape project documents the public's complaints to noise circa 1970. We can observe that general traffic is mentioned most times in cities like London and Paris, with construction noise also receiving a high amount of complaints. Interestingly we can see that the geographical location of the city affects the complaints citizens produce due to different climate, habits, and surroundings. For example, in Johannesburg the noise of animals was the source for the top complaint with cars and construction ranked low.

³² Schafer R, *the soundscape* 77

³³ Schafer R, *the soundscape* 76

Anti-noise activity is steadily on the rise with an increasing amount of laws and amendments being passed. With most laws tackling the usual suspects; shouting/disturbances in public, loud music, noisy animals, unmuffled automobiles. Both qualitative and quantitative legislation measures exist. Physically overpowering and destructive sounds are being dealt with quantitative measures but in the end they do not “relieve the problem of psychologically distressing nuances” Schafer mentions “anti-noise legislation for the present era should contain both quantitative and qualitative provisions... We will probably witness an erosion of the qualitative in favour of the quantitative, for the latter better suits the technocratic mind”, If we want to tackle the noise problem, a comprehensive acoustic design for the future is needed, as Schaefer reinforces “the only realistic way to approach the noise pollution problem is to study the total soundscape as a prelude to comprehensive acoustic design” either that, “or a worldwide energy crisis.”³⁴

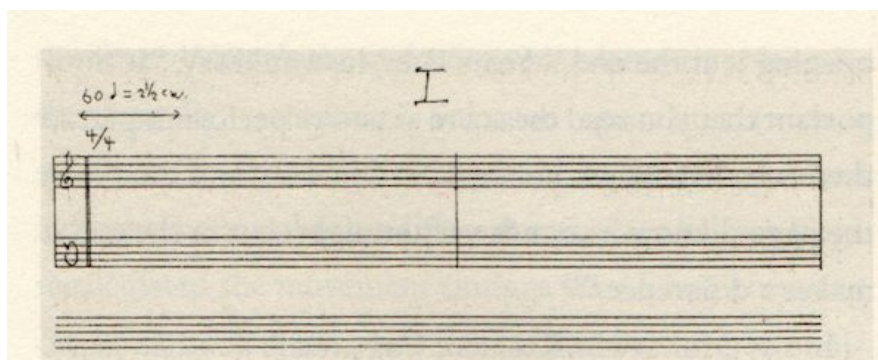
Sound, art and the future

So how can sound be used in the field of art to support the future? Ever since the birth of the term “sound art” it has been an obscure genre, a delicate label defining multiple fields of practice that employs the sonic as a material. The materiality of sound itself as a medium grants it temporal and ephemeral characteristics, allowing it to “bypass objecthood and the instantaneity of opticality”³⁵. It is there and it's not, often inviting a form of participation and engagement. It's safe to say that, for example, a musical piece, in a conventional performative aspect, is not sound art. We often see field recordings, installations expanding and departing from music favoured, as it can borrow qualities of music and move beyond it. Challenging perception, boundaries that already exist. This quality of thinking exists in all meaning pieces of sound art. What I am particularly interested in is how the temporality of time can be re-expressed and reimagined by sound. Normally one would experience and view time as a quantitative way of measuring happening and events. An apparatus that exists outside of the event and flows itself. The clock is

³⁴ Schafer, R *the soundscape* 181

³⁵ Cox C, *Sonic Flux* 152

the perfect example, little graduations marking units as the clock head repeats its cycle. The philosopher Henri Bergson points out that “the notion of time as a quantitative measure subordinates time to space”³⁶ Cox highlights “Moreover, insofar as it considers time to be a matter of discrete moments, clock time is unable to account for the *passage* of time, the movement from one moment to another without which time is nothing at all” Here is where we come to the term “duration” In Bergson’s terms, it is the experience of time as a qualitative process which is a flux and free-moving flow of the present, past and future. Bergson's idea of “duration” would then influence John Cage as he inscribed this concept on music as “a process essentially purposeless”³⁷ a process the beginning and ending of which are irrelevant to its nature”³⁸ Rejecting the production of “time-objects” in music. A structured framework designed with a beginning, middle and end which barred music in the traditional linear thinking of time. “He wanted his music to mirror and to become part of the open, ateleological flux of the world, and he affirmed this flux is not singular but multiple, a connection of many different flows”³⁹ We can witness Cage’s idea flourish most directly in 4’33”. The piece negotiates the relation between traditional measured time and a free “duration” as well as expressing Cage’s idea of Silence, *that there is no silence. A clock/stopwatch facilitates the piece. Throughout the duration of four minutes 33 seconds. There is “silence” as in no music, this engages the audience to another field of time, time that's not measured by an event, they are now experiencing “duration”. Instead of experiencing a musical event in a concert hall which would often be a “sound object” with structure. They are introduced to another form of listening, they experience the surrounding sound, this “silence” consisting of people breathing, occasional coughs, etc. Tiny sounds which would have been inaudible are now heard. In watching a later recorded version of the performance in the Barbican in London, the properties that underlie the structure and formation of the concert hall are still apparent. There is a sort of seriousness, a polished characteristic in the setting itself. In the continuation of 4’33”. There is 0’00”. Which I view as more a piece with greater finesse. It “calls for nothing but the continuation of one's work,



whatever it is... done with contact microphones, without any notion of concert or theatre or the public". This piece guides people to think that

(Above) David Tudor's Reconstruction of John Cage's *4'33* in sheet format

anything spoken through a microphone can be music. The idea that everything produces sound. Fundamentally through these pieces, Cage initiates and calls for new ways of listening and experiencing time. In his own words. "I have felt and hoped to have led other people to feel that the sounds of their environment constitute a music which is more interesting than the music which they would hear if they went into a concert hall"⁴⁰. This appreciation for a free flowing duration of time and letting sounds be free and "themselves" affirms with Bergson's thoughts and goes as far as acknowledges the world we are in is a constant flow of "nothing" and "silence". Max Neuhaus's sound installations also invite hearers to a new duration, calling his own works "sound continuums", "sound works without a beginning or an end."⁴¹ The work *Times Square* itself is a rich constant droning which disperses out from a subway vent in New York. Similar to noise, it can be heard as well as not heard. The sound blends with the busy street noise. "This sonic stream is continuous; but it is experienced by visitors and passers-by at particular moments within this temporal continuum."⁴² It creates new openings of perception, which can be linked to Leibniz's theory on "confused listening" and minute perceptions. The sound flows with time, both of them being change, not the act of changing. Sound artists are often informed of the terms acoustic space and visual space, as they need to be considered when preparing for an installation. There are ways of highlighting the importance of acoustic space, it can be highlighted to a point that visual space in these works is to the point of non-existent. Or the other way around where sound pieces activate the attention on acoustic space by neglecting acoustic space itself, only when something is gone or lacking, it will be paid attention to. It makes me think of the drone, which expresses the sound of compressed duration perfectly, the blend of soothing/sometimes harsh unintelligible melodies, contradicting the tones of the low, medium and high, which in the

⁴⁰ Kostelanetz, *Conversing with Cage*

⁴¹ Neuhaus, cited in tarantino, "two passengers" interview with duckworth

⁴² Cox C, *Sonic Flux* 153

end merges and interpenetrates, working together fluidly to create this constant uninterrupted swarms of tiny sound artefacts, like being in water. It is the duration perceived by the ears. Much like time itself, always in flow and manifesting. The sound needs to be activated on a grand scale, but no matter how hard the artist attempts. It is futile in a sense if the audience only *hears it*, not undergoing a deeper way of listening and appreciation of the sound and silence. Therefore, it is important for people to re-activate their inner aural perception, parts of the unconscious which have been lost for a while now.

Nature

“Every natural soundscape has its own unique tone and often these are so original as to constitute sound marks.”⁴³ These tones are the sound of the earth. Think of the Sulphur Caldron in Wyoming. Niagara falls, a volcano in Iceland. They all produce sounds which have long existed before a human ear is there to hear it. “Even when there is no life, there can be sound, the ice fields of the North, for instance, far from being silent, reverberate with spectacular sounds” Listening to nature is a set of skills that modern communities have long forgotten. The natural soundscape is full of noise, of silence, of information and life. When cities were still forests, tribal communities had to make use of their ears as it was the main navigation suitable for use in the densely silent forest. It was the basis for survival, anticipating the sound of predators, listening to where water sources would be available. Each species of trees would have their own unique sound. With different types of forests having their own keynote sound as well. Evergreen forests produced “darkly vaulted aisles, through which sound reverberates with unusual clarity”. British Columbia forests have insufficient undergrowth which keeps the forest “unusually free of animal, bird and insect life”. Soon settlers sense a need to clear openings in forests which brings in the keynote sound of lumbering. First with wood axes, then metal saws, nowadays of machines erasing trees with ease. An interesting part segment, the World Soundscape Project initiated by R Schaefer mentions the importance of persevering diminishing sounds, and various keynote sounds which form the ground for activity. “Keynotes are rarely listened to consciously by those who live among them, for they are the ground over which the figure of signals become conspicuous” “are however noticed when they change, and when they disappear altogether, they

⁴³ Schafer ,R, *The Soundscape* 26

may even be remembered with affection.”⁴⁴ The sound of wood and cobblestone, the birdsongs of a distinct species of birds which sound at a certain time in the forest. The sound of a church bell echoes through a village. The sound of gas lamps. Think back to your childhood for sounds that mark a specific period or strike your memory, those may well be keynote sounds. The perseverance of such sounds are important in the future, keeping it as a sound souvenir for referential and sentimental value, as some sounds could and would become extinct or succumbed by noise through hazardous development.

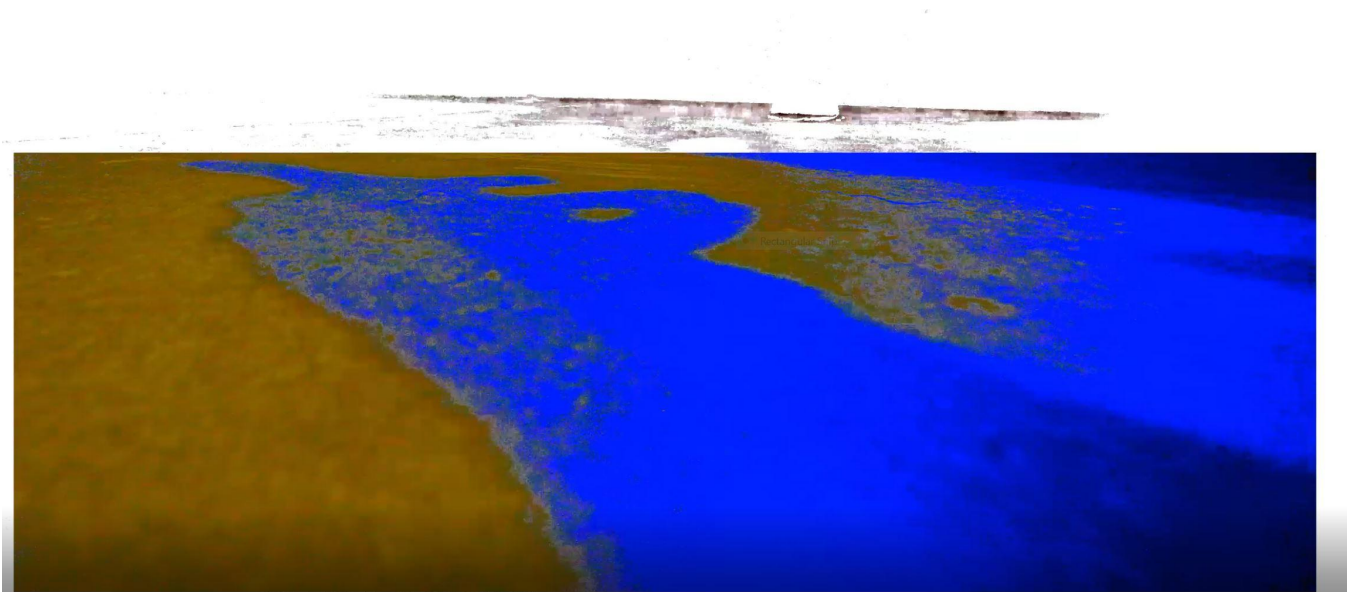
Acoustic/Visual Space

The space in which our modern community is so focused upon is visual space. Our spaces are marked visually whether in a public space or private space, activities are exercised within the physical space we are given. The walls surrounding us is a spatially private place, by law no intruders would be allowed in. Acoustic space is a different matter, however. Generated by a person or object, it is the amount of space in which the sound can be heard from. With the advancements of technology, our way of transmitting/occupying acoustic space has increased considerably, with inventions to activate more of it, loud speakers, the telephone, amplifiers etc. Now in planning for the future, we need to consider constructing communities in a way where acoustic and visual spaces are at an equilibrium. As of now, we don't have much say for acoustic spaces, for example the acoustic space of an airstrip and a station would increase in its sound profile through time as more machinery will be transported through them. We the people have no control over that. A legal way of addressing acoustic space's importance will be needed. Acoustic communities can thrive on the acoustic signals surrounding them, many examples are shown throughout history. In the Socratic dialogue of the Republic authored by Plato. The size of an ideal community is set to 5040. This way a single orator can address the whole community. Of Course, we had way fewer humans in the day, but consider the scale, and the acoustic space we could potentially activate with technology. In acoustic communities, the sound of nature guides our routine, our habits, and even our mood. Outdoor sounds have the freedom of flow as it moves in an unmodulated way in the open, Typical office spaces are condensed and private which marks it for fast tempo business. As most of our activities have been shifted towards the

⁴⁴ Schafer, R *the soundscape* 60

indoors, acoustic planning for these indoor spaces are important, it's not good enough to only insulate an indoor space from the sounds of the outside, or to add white noise to cover the smaller vibrations in the space. The power of sound must be activated through the architectural planning of the physical space. Noteworthy architecture from the past considered the aural, the be just important as the visual. We can identify from Greek Amphitheatres that acoustics is much considered, as it determines the structure. In modern times, the quality of the space is often sacrificed for the scale. The top priority for it is to be functional. Aural perception must be realised as a significant part of our lives.

In a quiet world, building acoustics flourished as an art of sonic invention. In a noisy world it becomes merely the skill of muting internal shuffles and isolating incursions from the turbulent environment beyond. Thus the great high-rise towers of the world stand on tiptoes, looking out across the fires of the city. Bellevue-mais mauvais son.⁴⁵



mercury zither, 15min Hongrui Liu

⁴⁵ Schafer M, *the soundscape* 222

As our population keeps on growing, less and less physical space would be available for distribution, it is an important time to start thinking about how acoustic and physical space interacts and work together, as mentioned above. It is crucial that there is a balance between the two, an overly acoustical community would not be realistic and won't necessarily work in the modern society. It also should be highlighted that the public should face the issue of noise, instead of ignoring and beholding it as inevitable, which would lead us down a negative spiral of growth in noise and pollution in the future. To activate that, people must first learn to appreciate and embrace silence, and learn to listen in creative ways. I hope the essay has introduced alternate ways of listening and approaching sound as a constant flux instead of something caged in the traditional modality. In a world that is so overcrowded and visual and aural information and that silence is looked upon negatively to me is astounding. By listening to silence, we expand our consciousness and liberate the senses. "The secret hieroglyph of the universe is revealed, the

number becomes audible and flow down, filling the receiver with tones and light”⁴⁶ As silence is constant, existing before us and after us.

⁴⁶ Cox C, *Sonic Flux* 262

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