

Parasitic sounds: *Sound mediation through laser engraving on acrylic*

Introduction

In computational arts, a system is built upon rules determined by an artist, where certain parts are left to be decided by non-human configurations. The artistic outcome can be completely or partly generative, as if the system has its own agency. As an artist you become a collaborator, or conductor, where certain decisions are left to be made by other forces. Likewise, this agency could be handed over to material forces, where the mediation of sound becomes what Pierre Schaeffer would call, the sound object [1]. The material forces partly take control from the artist and the mediation becomes a living organism – a generative system, conducted, but not entirely controlled, by its own creator.

Practising as an audiovisual artist means working across disciplines that enable expressions to be chained, such as augmenting sounds with visuals, with an intention to evoke multisensory experiences. This means that my artistic practice depends on forms of translation, although not as the linguistic procedure we more commonly think of when we speak about translation. My intention is to create an artistic interpretation and transformation, where one medium is translated into another, by use of specific mapping strategies.

In this project, I am researching the process of translating digital sound into vector graphics, then into laser engravings on acrylic, and later back to sound again. This paper will discuss the relationship between artist and the medium, where noise becomes an active, transformative and productive element, independent and out of the control of the composer. As such, the paradigms elucidated here aim to add to the following discourses: How will a translation take place and what happens to the sound during the process of transformation? What elements of sound will be lost, what will be added, and what will remain? How do we consider this transformative force? In next section I will list a number of artists whose work been dealing with material forces and which have inspired this project.

Inspiration

“everything everything everything everything, A world on edge of destruction”

In *Manifesto World*, by Gustav Metzger, London, October 1962 [2, p. 1]

Gustav Metzger developed the concept of auto-destructive art during the politically turbulent years of the 1960s, where the realities of the nuclear arms race and the Cuba Missile Crisis were omnipresent [3]. With activist intents he wanted to “attack on capitalist values and the drive to nuclear annihilation” [4, p. 1]. The first public demonstration that drew attention to his work was a performance at South Bank in London 1961. By painting nylon curtains with acid, he caused a swirling and destructive reaction which fragmented and tore the piece of fabric apart. Metzger’s activist concept is applicable to works of sonic art, where the destruction of sonic mediums act as a central component for musical composition.

Christian Marclay consciously applies the act of destruction as a tool for sonic exploration, such as damaging records by rubbing dirt, or inviting participants to walk on them [5]. When played back, the records are manipulated in such a way that only fragments of the original sounds remain. Marclay also released a record called “Record Without a Cover” [6], with instructions to refrain from storing the record in a protecting packaging. As such, shipping, handling and storing the record would defect the grooves and as such make the composition evolve over time.

William Basinski’s “The Disintegration Loops” [7] treats damage as decay over time. Passing years damaged the magnetised particles on tape recordings of his, and by replaying the tapes after the years had passed, blocks of music were being scraped away. The destruction over time reflects an expired life that cannot be resurrected.

“I am Sitting In A Room” by Alvin Lucier [8] is another example of destructive looping, whereby a recording of the artist’s voice is repeatedly played back in a room and then recorded again, in a continual process. The reverberation of the space is iteratively added to the recoding, warping the voice until only layered resonances are left.

Whether the disintegration of sound is accomplished by intentional violent processes of the sounds’ mediation, time and decay, or by resonating feedback, it reflects physical and natural

matters brought in by technology and mediation of sound. The transformation the sound goes through, and the artefacts brought by its mediation, can by activist means highlight a political discontent and societal turbulence - a discourse that persistently stays relevant within sound and art creation.

Theoretical background

To be able to determine how noise can be used as a creative and productive function, we first need to determine what comprises noise. In this context, noise should be considered a verb rather than a noun. Instead of banking on judgemental views of sound and point towards what noise *is*, it is more relevant to ask the question of what noise *does*. Marie Thompson states that “noise is recognised as a process of interruption that induces a change” [9] and refers to the ubiquity of noise where it lives outside of its manifestations (sonic, or otherwise) as an affective force. Noise is an interruption within a system, where the system is not limited to being sonic but also vibrational, visual or informational. It can be an abrupt and unexpected interruption, but also persistent and gradual. There is nothing fundamentally negative about noise, and in addition, nothing fundamentally positive in silence. The classifications of noise are relational and contingent, and discussing noise within the framework of affect allows for recognition of noise’s ability to be destructive, as well as creative and productive [10].

We can also think about noise as a parasite, a force that interrupts a set of relations within a system. Michel Serres [11] refers to the parasite as being in-between: “The position of the parasite is to be between. That is why it must be said to be a being or a relation. But the attribute of the parasite [...] is its specificity” [11, p. 230]. When noise interferes it provokes a reaction, a change within the system it acts upon. The interruption alters a set of relations or patterns of movement. The reaction can, according to Serre, be carried out in two primary ways: the host defeats the parasite, or adjusts to the new set of relations, by accommodating the presence of the parasite. The way we react to an in-between that interrupts a channel, becomes useful when we consider noise as a productive element.

Technical features

In investigating material agency in music, I was interested in finding an unconventional material for sound mediation that could produce unforeseen results. I turned to laser engravings on acrylic, due to the high resolution and accuracy the laser provides. Compared to conventional vinyl records, acrylic is more brittle and less flexible. The material durability of acrylic is therefore inferior to vinyl, and would therefore provide greater material artefacts when played back over time.

To extract the data of a digital waveform, the looped sound file is converted into a raw text file. The raw data can then be used for creating a continuous vector line of the waveform. A laser beam engraves the waveform as one locked groove on the surface of the acrylic sheet. The grooves can then be played as a monophonic record in the same manner as a traditional vinyl record. Due to low sampling frequency and scorch caused by the burning of the laser, the sound quality is at its starting point low. During playback, the needle will carve rather than follow the groove, due to the material characteristics of acrylic. These technical properties will be unstable at their core, and easily attract interrupting forces.

Evaluation

For the delivery of the project, a recording was set up, and the locked groove-records were uninterruptedly played back on a record player. The looping of the record was ongoing for 24 hours, slowly deteriorating the grooves and sound quality over time. People interested in the project were able to check in at different times and follow the process of the destruction.

The piece gave participants unexpected listening experiences. Visitors approached the record, turntable and headphones and saw an arrangement that looked like any other listening session. What they later hear is a crushed sound with a distant, muffled voice. The recorded words were inspired by Michel Serre and read as follows: “bacteria of cheese, death of silence, erasure of self”. Many visitors pointed out the moment of surprise over the sonic outcome, and how they expected to hear “something else”. One visitor approached me and wondered whether the record was stuck, and that it sounded “like something was wrong”. The length of the exhibition in relation to the pace of the destruction made it difficult to actually hear the change and

deterioration as the record was playing. Despite this, some visitors pointed towards the effect of the destruction and related the process to uncertainty in our present political climate.

For me, the most significant aspects of the piece arose from the feelings of the unexpected and the faultiness, which demonstrates the disruptive force noise can have. If we see noise through the lens of the parasite, as a being that interrupts a set of relations and a transformation that goes beyond the initial set of rules, we find an unexpected outcome and a moment of surprise. Subsequently, we either capitulate and regard the interruption as failure, fight back by developing improvements to eliminate the force, or embrace the new set of relations and adjust to it. The certain ways of reacting are similar to how we can react to uncertainty and discontent with political and personal fluctuations, and the element of destruction can also per se relate to hopelessness and a society in decay.

Conclusion

Having applied a framework similar to the ones used by Basinski, Marclay and Metzger, and having analysed how the parasite can function as a resource for sonic explorations, I have developed an understanding of generative forces that goes beyond computational systems and extends itself to the use of materiality and mediation. This understanding is useful to practitioners because it reveals what agency means for artistic approaches, and how it can reflect uncertainty, political change and discontent. Future iterations of the project would be to explore additional materials and engraving techniques, to make the process of the deterioration more tangible and observable within a shorter timeframe. Furthermore, it would be interesting to apply the framework on visual art, or to find a way to simultaneously process visual and sonic mediation in conjunction with a computational system. As a next step, I would like to explore a system where sonic agency can shift between the artist, an algorithmic system and its own materiality.

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