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Author
Ferris, Seth Alexander

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The Soundscape of the Factory Floor

A thesis submitted in partial satisfaction of the requirements for the

degree of Master of Fine Arts

in

Visual Art

by

Seth Alexander Ferris

Committe in Charge:

      Professor Benjamin Bratton, Chair
      Professor Sheldon Brown
      Professor Ricardo Dominguez
      Professor Miller Puckette
      Professor Mariana Botey Wardwell

2017

The Thesis of Seth Alexander Ferris is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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ABSTRACT OF THE THESIS

The Soundscape of the Factory Floor

by

Seth Alexander Ferris

Master of Fine Arts in Visual Arts

University of California, San Diego, 2017

Professor Benjamin Bratton, Chair

This thesis compares the structures within industrial production, specifically related to time and the perception of it to the reciprocal resistances and responses within post-war art works. Specifically sound, its relationship to both the human quantification of labor and its exploitation in factory. Suggesting that these – the conditions of human work time – are the material by which artists who work with sound construct ulterior time frames either through processes ranging from deep listening the the co-productive activities surrounding electronic dance music.

Chapter One

The resistance at play between a platform and its participants is the very thing that refines the mutual negotiation between the individual and the abstraction of their labor[1]. The factory, assembly line and mechanized distribution methods were the hallmark of modernity, and the scientific processes which lead to their approach, the substantive proof of their validity, designed to be replicated by the production capabilities of human work beyond what was previously considered possible. The resulting shock to the primarily agrarian society in North America most recognizable work post-war WWI where the shift toward mechanized labor was felt across industries. The expenditure of energy in the production of goods had been the measure by which ones worth was defined and while less human energy was at stake the trajectory that was plotted was away from the human into the technological. This effectively caused a collapse of time in the life of a worker, as one's life was no longer committed to any specialized training one possessed, rather that training had in effect become mere generalizations of the skills they had inherited from the craftspeople before them. Mechanization was a process of transference of the human machine into its mechanical alienation through purely quantitative standards of quality, namely profitability, and naturally this exchange of human physical energy into the mechanical operations which extend the reach of human mechanics did not come without it's drawbacks.

We see in contemporary North American society a dramatic shift from workplace environments typical of the nuclear age. Gone are the massive factory floors and the cultures produced by them, a trend toward decentralization has taken rise and the promises of liberation from work abound. The network, or the distribution of risks and produc-

1   Here the term abstraction is a nod to the algorithm which distills gesture, behavior and human rhythms into quantified equations which are the contemporary source of alienation in the Marxist sense. Like the tools and machines that were the primary force of alienation during the industrial revolution the algorithm represents a further distillation of Labor Power into equations which, while potentially useful, largely omit the data needed to be accurate and exclude those who are lacking the most.

tion that had previously be attached to specific locations have become distributed across a series of nodes linked through technologies such as GPS and TCP/IP. These systems, however, are merely another iteration upon existing structures of labor and its exploitation and while the opportunity for freedom from toil may present itself in the form of the algorithm, the platform of labor so rooted in issues of access produces resistance through these same mediums. The contemporary conditions of labor merely distribute the risks of the workplace into largely unseen channels while they promise a more individualized form of engagement with the economy of labor and goods one might observe that this is merely a shift toward hyper-customized experiences and products which the automated workplace provides. Augmented by the slick media constructions which seek to distill creative power into motifs, the oligarchies of production power remain in control of societal experience despite the increased range of flavors to choose from. What is being made clear is that social conditions have been the deciding factor in the development our working lives and so-called creative capital has been the tool by which equilibrium or destabilization have been achieved. Artwork, increasingly, becomes indistinguishable from the financial, the commodity, and the constructed reality of Capitalism.

Essentially the conditions of alienation have not changed, only the means by which they are enforced. Control has been the key post war, of body, mind, interactions and organization. During the growth pains of industrialization the scientific method was used to observe and quantify the expenditure of energy in the production of goods[2]. The worker's body once amplified through the machine proved to be merely one of the factors in the equation of mechanization, no different that of the other resources necessary to produce goods and services. Quantification of human work might described by fatigue, the key factor in understanding the human resource. Studies and observations which lead

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2   Here Marx's discovery of Labor Power coincided with the rise of the machine as the object by which we saw our own human energy abstracted.

to the understanding of the human body as a material have their analog in the sciences whose continued project is to exact precise amounts of utility from other naturally occurring resources. The science of work employed by the labor movement owed a debt to the same research which was used to maximize human labor. Their own purposes in demanding equity within their structure emerged from their knowledge that the conditions had changed to leave many workers behind.

Solutions to human factors like worker fatigue required greater effort than the mechanization of vehicle or garment assembly lines, which had existing labor models to abstract, rather a campaign of scientific observation and problem solving was applied to the human condition in parallel with the industrial. The efforts of scientists, industrialists, and workers alike resulted in various workplace modifications some of which were legislative, others through workplace practices and all of which addressed the physiological and social aspects of modern labor. The resulting secondary economy employed workplace consultants who engaged in the production of the workspace itself developed some of the most crucial components in the maximization of the workforce. Systematizing the stimulation and deprivation of our senses helped to define our current economy of labor and the platforms which are now ubiquitous aspects of our human sensorial experience. The very sounds, spaces, uses of language and the infrastructures which support and reify production, are the subject of the 'entropic'[3] fashion in which capital perpetuates itself and is mutually refined by the reductive approach to labor necessary to produce surplus.

In the same way that the human is abstracted so as to liberate them from certain monotonous and often dangerous forms of labor so too is the spectrum of options limited

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3   "Marx also discovered the principle of entropy at work in capitalism the unidirectional time flow of history produces the inevitable tendency of capitalism to decline as the productivity of labor power increases. By transforming labor into capital, capital amplifies its forces: conversion of force is a conversion of magnitudes."
The Human Motor, Anson Rabinbach p.80

and the worker's conditions are simplified through a process of reduction. The solution to these factors is nothing less than the production of a the dominant culture, one as alienated as the labor it attempts promote. With each iteration on the capitalist conditions of production comes its negation in unexpected and insurgent formations, some technical and others social. Arguably *workplace culture* embodies the entanglement of the worker's own struggle for an equitable life along with the autonomous development of subcultural response to technological development all regurgitated through the capitalist subsumption of their creative capital and its aesthetic.

The industrial revolution in producing first and foremost efficiency within human labor simultaneously created the demand for the quantified factory, one in which all 'useless labor'[4] might be avoided. Marx's discovery of Labor Power showed that the consummate efforts of both man and his abstraction within the machine are totally embodied in the form of the commodity. It followed for entrepreneurs and the scientists who influenced them that any wasted energy had bottom line effects on their operation's profitability. This is where a thermodynamic approach which began in Marx / Engels analysis of labor power came to be exploited. As mentioned before fatigue became the enemy of productivity and the campaign toward scientific management underwent a series of adjustments which culminated in the theories embodied by *Taylorism*. Alan John Percivale Taylor had developed theories which became the basis of the work sciences which studied fatigue and energy conservation. These theories were immensely success-

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4   "From a social point of view, the productiveness increases in the same ratio as the economy of labour, which, in its turn, includes not only economy of the means of production, but also the avoidance of all useless labour."
Capital Vol. I, Karl Marx, p.373

ful in post WWI Europe and the United States and also had long reaching, even 'promis-cuous',[5] influences in the development of work models for the early Soviet Union.

Taylorism, along with the other productivist models of work science incorporated the practices of physiology, psychology and sociology into management techniques ranging from hiring practices to factory layouts. These optimizations were largely to weed out potential liabilities and avoid unnecessary hold-ups on the factory floor through planning of the production workflow. This practice was largely pursued in the 1880s in the Western Europe where an eye toward modernity has produced a class of scientists focused upon making more refined distinctions in the abilities of certain classes and peoples in production. The institutionalization of these models for hiring and firing had mixed results, creating total homogeneity in the workplace based on psychoanalytic testing proved effective only in the short term. Fatigue was still mounting due to the increased scarcity of food and the long hours expected of workers both during and after WWI. What had become clear was that even the most suitable worker would eventually be broken by the monotony of factory life and the threat of starvation, even the most streamlined factory would take on the character of the gulag.

The retooling of the factory began during WWI in which world nations first experienced fully mechanized warfare, the horror of which it was hoped would be negat-ed by the promise of plenty represented in the modern factory. During this period much about the human machine was discovered, each human sense had its own limitation, and each mode of production had its equivalent aesthetic and technological solution. The socio-political implications of the technologies developed during wartime were reaching

5   "As Charles S. Maier has shown in a classic article, on all points of the political spectrum "Taylorism and technocracy" were the watchwords of a three-pronged idealism: the elimination of economic and so-cial crisis; the expansion of productivity through science; and the reenchantment of technology. The vision of a society in which social conflict was eliminated in favor of technological and scientific imperatives could embrace liberal, socialist, authoritarian and even communist and fascist solutions. Productivism, in short, was politically promiscuous."
The Human Motor, Anson Rabinbach p.272

into the daily lives of citizens by proxy of the work sciences as part of a program aimed at the body for the purpose of complete control over their productive and consumptive energy.

…continuous recorded music that is played in shops, restaurants, airports, etc.

Muzak is a term that has become synonymous with spatially tepid sound. It's inoffensive altruism sits as well in a bank elevator as in the lobby of an auto mechanic. It is the auditory equivalent of hotel carpeting or an after-dinner mint. While covering a multitude of auditory sins, the name Muzak comes from the business endeavor of military contractor Major General George Owen Squier whose inventions spanned a range of audio transmission methods. Squier was a sophisticated circuit designer, credited with the development of telephone multiplexing in 1910[6]. Squier intended to supersede wildly popular radio broadcast systems by targeting private businesses with closed-circuit amplification systems installed on site. For the Muzak Corporation the tools of amplification constituted the fundamental shift in the function of sound, music, and aural sensation an opportunity for newly programmed spaces augmented by simple technologies such as the record player and the PA system. The Muzak Corporation employed what they referred to as *Audio Architects*, individuals who programmed workplaces with amplifications systems and their customized listening program based on the needs of the business. Their program operated both as an infrastructural modification and a cultural insertion into the space of labor.

Stimulus Progression is the patented term Muzak used to describe a technology that needs no circuits. It operates on a pseudo-scientific basis, rooted in the division of

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6   Multiplexing is a process by which a single signal is divided into separate signals of equal fidelity each finding its home at a receiver or processor. By this process one line can send and receive from many phones, one microprocessor can check many sensors in sequence. This form of low level encryption is fundamental in modern electronics and the development of the network.

time uniquely suited to the 8 hour work day. The Audio Architect was tasked with the analysis of songs based on sonic characteristics like tempo and timbre, relative speed and brightness. The program itself was targeted to maintain a steady increase and occasional fall in work activity. Divided roughly into 15 min cycles, workers experienced a range increasingly active songs and cooled off with ones of a slower pace. A break for silence was also included to avoid the listener's fatigue[7] a clear nod to the notion that all experiences when persistant, become no experience at all and lose their effectiveness.

The fundamental interest in the development of localized audio control was, from the beginning, one of worker/consumer maximization. Analysis of human work and rest cycles certain behavior could controlled with a systematized progression of sounds. A person's behavior could be shifted using sonic alternations between tempos, timbres, and most interestingly, silence. The varying densities of the program created a work-day-long meta rhythm containing micro rhythms within. Territories within territories of sound all quietly saying the same thing. *Get back to work*. Muzak had its own "sound", many tracks were composed and recorded specifically for the Muzak service, each designed as part of an inoffensive listening experience evoking a flat response in the listener. Indeed Muzak is not something to listen to but rather something that is merely experienced, not quite subconscious but also not particularly engaging.

Audio Architecture and Stimulus Progression satisfied the entrepreneurial desire for the quantified workplace perfectly, a smidgen of data was provided to back up the results which were self evident, people were working more effectively. The widespread success of Muzak made it common in factory and retail spaces alike and arguably in various forms has not left our social spaces since. Rooted in some principle too deep for

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7   Its notable that that Muzak's techniques have been weaponized in recent torture cases brought to light during the Abu-Ghraib scandal where David Gray's song "Babylon" was used in the practice of "music torture". (https://www.theguardian.com/world/2008/jun/19/usa.guantanamo)

immediate analysis, too profitable to question, the term Muzak has in effect come to stand for the mechanized the use of sound as part the holistic experience of western capitalism.

Erik Satie whose compositions expanded the role of music outside the concert hall into the foyers and patios of the social class was among the first to see the potential of sound in space. His compositions were often played during the intermissions of other pieces of music in the foyers and hallways thus causing him to entitle them *Furniture Music,* which attempted to create sounds that functioned as part of the tapestry of public life. Using music that disappeared into their environment he transcended the linguistic use of composition toward the primarily experiential. Composition until his time had been the transmission of a sound from one's brain to another's through the musician's finger tips and onto the listeners ears but Satie made work that shied away from direct replication of a strict rule set toward augmentation of predefined spaces. The setting for Satie was the paramount factor as opposed to mono-directional response to an audience. For Satie the location of the sound augmented through the structuring of time was the key factor which made his work effective. In keeping with the social class to which Satie belonged there was a certain politeness to the short pieces he identified as the primary examples of Furniture Music. *Tapisserie en fer forgé* was intended to welcome the guests down the red carpet while *Chez un "Bistrot"* and *Un salon* were intended for a bistro and the drawing room respectively, telling of the types of access one might need to experience his work. As a result many considered Satie's work a novelty, a kitch artifact of the larger experience of the theater, opera or chambers of the elite.

Other pieces of Satie's approach a more cognitive level of function in the listener using lengthy durations as an approach toward a meditative state. Satie's notes for his piece *Vexations* ask that it be played 840 times in sequence, the tempo described only as "very slow". The length of the piece varies depending upon the ensembles own bodily refresh rate. Some performances are roughly 12 hours long most are closer to twice that.

Vexations facilitates several players to mutually navigate duration by their internal clocks. The players can choose to normalize with each other or to change the course while staying within the limited range of the simple tritone composition. These navigations (of one's own definition of "very slow") have the effect of time hacking the audience members. The prolonged exposure to a persistent sound spectrum causes any viewers to doze and others to hallucinate. The persistence of time inside Satie's loop causes one to be extracted from their bodily understanding of their labor.

Long form pieces like Vexations use simplified tonal structures in order to make the beginning and end of the composition difficult to ascertain, especially after a few hundred repetitions. This lack of beginning or end has the effect of placing the listener in the middle of a great flow of densities, intervals and pauses. Deleuze describes *The Refrain*[8] as organizing principle behind consolidation, the moment of lapse between various densifications in perception. This pause is both natural to, and interruption within the flow of the sensorial, reminding us that experience both exists outside of time while describing it.

While Satie could not have foreseen the contemporary use of his music in consumer settings, the effects of his work uncovered by John Cage pointed to the incoming technological ability of artists to replicate the more subconscious methods in his work. The task of tracing shifts of these subconscious or environmental locations is fundamentally tied to utility. *Gnossienne No. 1, 2, 3* are commonly encountered at sad department store lobbies performed by winter-hire pianists (now replaced by the *playlist* which I will

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8   Consolidation is not content to come after; it is creative. The fact is that the beginning always begins in-between, intermezzo. beginning always begins in-between, intermezzo. Consistency is the same as consolidation, it is the act that produces consolidated aggregates, of succession as well as of coexistence, by means of the three factors just mentioned: intercalated elements, intervals, and articulations of superposition. Architecture, as the art of the abode and the territory, attests to this: there are consolidations that are made afterward, and there are consolidations of the keystone type that are constituent parts of the ensemble.
– A Thousand Plateus p.329, Delueuze & Guatuari

address later). While the work of Satie and the minimalist composers after him[9] were designed to open pathways for thought, some thread within their work has become amenable to the soundscape of the clearance rack.

The loop is a tangential artifact derived from ambient composers interested in repetition within time. A staple of contemporary music making, any given loop points to the immense power and multifarious output within repetition. Phrase repetition in sound causes the individual to listen closely for the refrain, the assumption that the loop is perfect is subject to time slips even in the complex circuitry of a modern sampler. Hiccups in sampled sounds are the reminder that even the loop is a circular abstraction not fully indicative of the undulating, coiled experience of time. The effects of the loop and the devices that repeat, stretch and modify them are pervasive in all music production today regardless of genre. The ability to divide time into fragments and phrases has afforded generations of sound makers to create collage on a timeline.

Looping techniques are directly associated with the invention of the mixer, the turntable, and perhaps most notably the *dub plate*[10]. Electronic music and the widespread use of the loop owes it legacy to the practices of Jamaican dub musician King Tubby who developed his own mixers and effects for producing tracks released on acetate dub plates for djing in clubs. The dancers and clubs, the musicians, were all part of the social environment which took on the character of an intentional community immersed in low frequency bass. Images of the improvised electronic equipment and PA systems are the stuff of legends in the electronic music community and many genres trace their lineage back to dub music as the epicentre of sonic reconfiguration. While the influence of these

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9   "Deep listening, a discipline she (Pauline Oliveras) developed during the 1990s, bypasses conventional music theory in favor of expanding consciousness through cultivating a keener ear." (*Strange Sounds Led a Composer to a Long Career*, New York Times, Steve Smithaug. August 10, 2012)

10   "A **dubplate** is an acetate disc – usually 10 inches in diameter – used in mastering studios for quality control and test recordings before proceeding with the final master, and subsequent pressing of the record to be mass-produced on vinyl." - wikipedia (https://en.wikipedia.org/wiki/Dubplate)

methods is no doubt widespread in the US what is most notable is the way in which they came to be accepted. Most directly, hip-hop is the cousin of Dub the *MC* taking cues from the *toasters* who rallied crowds through chants and rhyme.

An episode of the short lived television show NIGHT MUSIC featured a live performance by a young white male artist using four turntables and a mixer. Both the technological spectacle and the repurposing of the prerecorded were novel at the time as much of the public had only considered the DJ someone who worked for a radio station or a roller rink. The host of NIGHT MUSIC incredulously gave the introduction to tepid applause in 1989: ***"Everybody on our show tonight makes records including our next guest. He however makes his out of other records. Please welcome 'Record Player' Christian Marclay!"***

What follows is a rapid fire mixture of records Marclay had modified with tape to either loop in place or to cause stutters and interruptions. Squelching beats, anthems, sound effects collaged into a tumble of sound. Some of the discs were played only for seconds before being thrown to the floor, others were abused by what few had seen and fewer put a name too. Scratching a vinyl record had the effect of sliding back and forth through recorded time, the centripetal spiral of the turntable's needle interrupted to produce ruptures and reconfigurations. Despite the the chaotic variety of sound Marclay achieved, the performance has its own internal clock[11]. Each record played within the limitation of the the platform (turntable), each constrained to linear understanding of time (33 or 45 RPM), and duration subdivided into samples (recorded sounds as an archive).

Marclay's performance shows the residue of workplace technological advance-ments in resistant action. His use of preconfigured systems toward radical reinterpretation

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11   Marclay is most famous for his video piece *Clocks* which as a series of pieces, traces time through a collage of films, each featuring a clock motif. *Clocks* is interesting both in that it represents the same sampling process in music made visual and that it has been recreated many times. This repetition within the internal canon of a piece alludes to further encapsulation of time within the life of a piece and the artist simultaneously.

suggest an irreverence to both the technology and the archive from which he draws. As if engaged in some posthumous release of secret documents his sound is a secret unwinding and mutation of Capital's DNA. Consolidation of textures and cultural motifs are endemic to all forms of life and art. The process of mutual vibration by which the epicenters of movements come in and out of phase with one another are comprised by minute distinctions swirling about a center of interactions which are agreed to be acceptable in a word polite. While cultural normalization is violent to varying degrees, it also produces dissonance internal to the discussion of social organization.

The formalization of what sounds, behaviors, embodiments are acceptable are predetermined by the patriarchal systems which distinguish and select strains deemed fit for reproduction. Limiting the scope of acceptable expression narrows the effects of potentially resistant activities, DJ culture being inherently antagonistic toward authorship/ownership represents an artform in which politeness goes out the window. Irreverence is endemic to the very process of electronic music production and thus the byproducts of it as a culture are ones to be interpreted by the participants rather than the onlookers *or listeners* as it were. While Marclay's interest in turntablism cannot be question, his sincerity in effect trivializes the efforts of existing communities which had been exploring DJ and dance music techniques for years[12].

The 808/909[13], the analog synthesizer, and the DJ Mixer resulted in a totally new embodiment of music not beholden to prior forms despite being the abstractions of musicianship designed for accompaniment in churches and piano bars. Regardless of the devices intent if you are dancing to a "live" drummer or listening to the echo of technology hardly seems important if the focus is on the corporal effects in the human. The use of

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12   Its is also noteworthy that other classically trained artists we able to move seamlessly between artworlds and popular music. Arthur Russell for instance was successful in operating The Kitchen in New York, a space known for avante garde sound installations, and was simultaneously the author of numerous disco and house records.

13   The TR–808 and TR-909 were early programmable drum machines design by the Roland Corporation in the 1980s

these tools represents a shift in the usefulness of "originality". Dance music orients itself around physical motion and public participation, creating a center of expression, sonic territories in which all are welcome to interpret and contribute to meaning. By merely shifting the emphasis of the biological BPM toward the maximization of dance, so too is labor redefined.

Tempo prior to electronic music used composer instructions to determine the relative speed at which a piece should be played allowing the musicians own sense of internal time to rule, modern tools however allow for specific control over BPM (beats per minute) giving the clock over to technology. Like stimulus progression in Muzak the mechanization of time in music is useful in creating markers of location and style. Stimulus progression however, is based on the maximization of human work while BPM is defined by the DJ and their tools. Muzak neutralizes the workplace through the inoffensive, while the pervasiveness of electronic music charges an environment toward activity. Between Muzak and the evolution of electronic music in the states is the relationship between the technologies used for dissemination, the infrastructural shifts necessary to accommodate them and the functional purposes of each. One purpose is the maximization of labor, the other self defines through radical inclusion a method of creating safe spaces for expression and community organization.

Larry Heard (aka: Mister Fingers) in his track *Can U Feel It*?, much loved and equally sampled by house musicians, calls for total inclusion under the banner of dance music. Music like House was instrumental in creating safe spaces for the marginalized largely African American and LGBTQ communities of the 1990s. Twenty-four hour dance parties produced ecstatic states, the bodily effect of a larger social movement in

need of safe havens. These spaces however came to function as spaces in which organization might also take place.

Four on the floor, pounding low frequencies shake the walls, the collision of sound and flesh producing the sweaty revolution of House. Here the total immersion within sound relies not on volume or preconfigured transitions, but the spectrum of frequencies that are experienced in the body. The motifs of 4/4 time, the recognizable artifacts of the technology used, and the sample itself function as cues of territorial delineation. These territories while existing within the platform of genre (house, drum and bass, garage, electro etc) are less tied to the spaces in which they are played and more to the participants who comprise the movement. House communities took on a gospel like tone, revival style, proclaiming the *come-to-the-party* message through fits of dance, here Mister Fingers "samples" bits of the civil rights movement's language as well[14].

The repetitive aspect of electronic dance music is its power. The production of motif [15] in this case, allows the participant to self identify within the throbbing mass of

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14   In the beginning, there was Jack, and Jack had a groove.
     And from this groove came the groove of all grooves.
     And while one day viciously throwing down on his box,
     Jack boldy declared, Let there be house!" and house music was born.
     I am, you see, I am the creator, and this is my house!
     And, in my house there is only house music.
     But, I am not so selfish because once you enter my house
     it then becomes OUR house and OUR house music!
     And, you see, no one can own house because house music is a
     universal language, spoken and understood by all.
     Mr.Fingers - Can U Feel It?

15   Following Adorno's line of thinking the refrain in music is nothing more than a function of pause allowing the residue of a composition to sink in. The same goes for motif, these two act merely symbols of socially normalized behavior. Social cues by which to understand what you are hearing (or in many cases not hearing). In Adorno's essay entitled *Motifs* he both succinctly and disdainfully diagrams the way in which popular music self replicates. His analysis, based largely on 17/18th century composers, points to the use of motif toward the syllabic, and like much of language is seen as the building block of persuasion. Describing the role of motif in popular music to make each song quotable. Sloganized sound which is best suited to being paraphrased. The horror of *the quotation* for Adorno is that it is somehow reductive of the original as opposed to creative of the new. This sonic crisis leads Adorno to find even melody suspect, flourishes and decoration perfectly treacherous. Adorno describes the shifting of time through affect as an intentional wielding of power. Here is where the Frankfurt School author's understanding of sound

other dancers in an ecstatic state. This mutual confirmation of the song, the dance and the individual within it produces an intentional community, one united in the production of and participation in mutual navigation of values through form. Drum machines may have no "soul" but those that use them do, their intentions are not inaudible behind their methods. The loop whether produced by tape explorations or modern sampling technologies performs the refinement of the quotation. Looping quotable phrases or rhythms from existing sources allows the artist to reform the ideologies of their source material.

The coalescing and unraveling of aural densities whether in the lobby of a concert hall or in a breakbeat, the loop is a formation in music that had not been mechanized in Satie's lifetime, there exists between Furniture Music and Vexations some low level biological or sub-cognitive principle at play while the same effects are overt in electronic music. Through long form intentional listening and deep sonic camouflage, these early ambient pieces point to some human access point observable in our behaviors but difficult to quantify. Here the work of Satie and the Muzak Corporation have many things in common yet autonomous creative communities to which artists like Mr.Fingers belong use those same devices toward reconfiguration much in the way Christian Marclay absorbed those motifs and made them palatable to a bourgeois audience (namely the New York art scene of the 1980s). While music like satie's sought to expand upon time toward its removal. dance music accentuates it into… something hyper malleable yet deeply present.

The structural use of space as the location of experience and the division of time and activities through their triggering by way of song. It could be observed that minimal, ambient, and meditative sound has been co-opted by capitalism's interest in maximization which might be seen as a mutual refinement of capitalist production and resistant or

becomes overtly bourgeois as if the only purpose of sounds is the be original, by completely ignoring the context in which sound is played he fails to acknowledge the fundamental revolutionary power which a normative sound may have in situations foreign to its origin.

subversive demonstrations in art. Rock and Roll reacted to the soft, schlocky popular music of the post war and punk was symptomatic of the institutionalization of rock. A rupture in sound/space was insufficient for the larger intentions of House Music. Inserting subversive action into pre-existing modalities through demonstrative acts within autonomous intentional communities House Music sought to (and continues to) create spaces of safety for the marginalized without any requisite mode of interaction or distinction. Electronic music in the US was not strictly a reaction to the music before it despite borrowing from it with abandon, the shared impulse of a population, empowered by technologies, produced the liturgical practice of House. While each house community retains their locality (Chicago is distinct from Detroit, US from UK and so on), the focus is in the power of ritual and navigation of values through music. The consolidation of these motifs in dance music speaks to their biological and social potency.

Returning to Satie for a moment one might observe that the coalescing and unraveling of aural densities whether in the lobby of a concert hall shares much with the breakbeat on the dancefloor. The loop is a formation in music that had not been mechanized in Satie's lifetime but its biological abstraction had begun in his work. Between Furniture Music and Vexations there exists some low level biological or sub-cognitive principle at play which is exploited in a popular fashion by Stimulus Progression. Through long form intentional listening and deep sonic camouflage, these early ambient pieces point to some human access point observable in our behaviors but difficult to quantify. Structured experience of spatialized sounds combined with the division of time and activities demarcated by song prove useful for trancelike states whether for sleeping or working. Minimal, ambient, and meditative sound has been co-opted by capitalism's interest in maximization which might be seen as a mutual refinement of capitalist production and resistant or subversive demonstrations in art. Equally so Marclay absorbs the methods and irrever-

ence of intentional communities (House / Hip-Hop) and presents it to a bourgeois audience making those practices more widely acceptable.

The bourgeois consumption of DJ or hip hop culture in a so-called fine art context is an obvious example of Capitalism's ability to absorb the cultural surplus of a movement and spit it back at the very community from which it originated. Marclay, perhaps, being one of the earliest examples of this phenomenon relating to hip-hop, regardless of how well intentioned he may have been. This reveals a question about the function for distributed sounds alongside the time and space they inhabit. While Muzak proved successful with their polite rendition of popular music and Dub, House and Hip-Hop had an overt relationship toward social organization each employed biological hacking through repetition and loop. Some applications for these principles, however, have more diffused intentions which bridge design and conceptual art practices.

Times Square is a permanent audio installation located at the site of its own name created by the artist Max Neuhaus. The piece consists of a large amplification system embedded beneath steel utility grates of the pedestrian walkway at the "North end of the triangular pedestrian island located at Broadway between 45th and 46th Streets in New York City".[16] Literally below the concrete sidewalk the piece emanates sound 24 hours a day since its reinstatement in 2002.

> […] INVISIBLE UNMARKED BLOCK OF SOUND ON THE NORTH
> END OF THE ISLAND.
> ITS SONORITY. A RICH HARMONIC SOUND TEXTURE RESEM-
> BLING THE AFTER RING LARGE BELLS, IS AN IMPOSSIBILITY
> WITHIN ITS CONTEXT. MANY WHO PASS THROUGH IT, HOWEV-

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16   http://www.diaart.org/sites/main/timessquare □

ER, CAN DISMISS IT AS AN UNUSUAL MACHINERY SOUND

FROM BELOW GROUND.[17]

The low frequency reverberation in Neuhaus' exploits his understanding of the frequency spectrum, listening and the body. A persistent sound in an active environment will eventually become ignorable, increasingly so as the cityscape turns itself up with the noise of traffic, continuous advertising, and the chatter of city life. The low sinusoidal waving of low frequency in Times Square becomes physical. Bass frequencies travel in all directions equally, less directional frequencies do not cut through like the projectile treble of the human voice or a shredding guitar solo. The low end of the sonic spectrum caresses you with air vibration, jiggles your insides, a block unmoving situated amongst the din of Times Square. Neuhaus' speaker cabinet impresses upon you a critical density of sound as if it were a physical object invisible to the eye. Speaking without ceasing, in the face of more powerful voices, using the very same technologies of amplification and subliminal suggestion, all a field on which to engrave a message for any willing listener. The physical effect of this installation is much the same as being at a Dub event, only the low frequency is sustained indefinitely, making it an experience which like Vexations has to perceivable beginning or end. Neuhaus was clearly concerned with the construction of the city from the perspective of the sensorial experience of the individual which aware that it was one that was mutually constructed through signs that were not strictly linguistic… many of them were utterances in purely sonic frequency.

> *"In New York, the most conspicuous characteristic of sirens is sonic*
>
> *hysteria. Police and firemen, reacting to the frustration of sounds which*

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17   M.Neuhaus, Drawing of "Times Square" 1993

don't work, have demanded the development of louder and nastier ones.

They have reached the point of saturation. And they still don't work."[18]

Agitated by the dense auditory chaos of New York City (perhaps because it left little place for his artwork to exist) Neuhaus used his technical skills to develop new sirens in cooperation with the NY Police Department and some private investors. His inventions revolved around the use of more direction frequencies and sounds which would indicate not only the presence but the direction of emergency vehicles which he wanted "…to demonstrate that a sound could have authority without being authoritarian." His inventions were tested in the valleys and canyons of the Joshua Tree Desert which he claimed would simulate the dense high-rises of NYC. Many years of development went into what seemed initially to be a pet project verging upon art performance until trials proved the system worked having had successful trials in Santa Barbara.

Neuhaus wanted to improve the city through the use of sound by preventing auditory fatigue, public institutions, however, were unwilling to retool their infrastructure toward human factors despite supporting the research. Inserting revolutionary acts into existing structures was not part of the agenda of institutionalized sound or the quantitative output of the city. The practical effects of such a development were hard to discern without implementation, deemed too costly, and thus discarded. From the perspective of power the body is merely a resource, its needs are only relevant in relationship to production *inside the workplace.*

When cultural producers (for the purposes of art or entrepreneurship) work across the social, infrastructural and technical regimes, the work that emerges is one that targets the whole of a human's sensorial experience. One cannot in an institutional setting develop new experiences that are not the wholistically byproducts of their environment. The

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18   Sirens, Max Neuhaus, 1991 (with addenda in 1993). Originally Published in Kunst + Museum, 1993]

closed PA system and the Stimulus Progression program targeted the specific delineation of time which was required of the worker's body, namely the eight hour work day. Whether as critical response or merely byproduct of technological proliferation movements like Dub, House and Hip-Hop developed subversive analogs to the factory experience through mechanized variations on live performance, and ritualized social engagement in labor akin to the demands of the assembly line.

How does one quantify the cultural data which is lost in the process of "refinement" and what is the intention in the use of the subconscious in the space and sound? The socially polite use of sound employed by Muzak represents a now ubiquitous artifact throughout all music production toward the algorithm to which it will undoubtedly be subjected. The new workplace is dynamic, one in which a worker may inhabit numerous spaces either personal or temporary in which music is distributed over the same networks used to perform the laborers tasks. While the spectrum of *options* has seemingly increased the spectrum of variety has been significantly narrowed by the parameters of music analysis.

The Muzak Stimulus Progression programs are the prehistory of the *digital-playlist*, unobtrusive music structured around the maximization of a person's utility. Algorithmic music analysis is the development of the last decade employed largely to enforce digital rights management software, designed to analyze waveforms for their digital DNA. Peaks and valleys in the waveform used to trace bits of songs that find themselves pasted into other compositions, alien residents in new territories, origin story becoming thin. Spotify, iTunes, Google Play and all the similar content distribution companies use these algorithms in conjunction with other user gathered information to make artist, song, and playlist recommendations.

Algorithmic music analysis is used to determine the characteristics of contemporary music based on similarly limited criteria that Muzak employed in programming

nearly 75 years ago. Platforms have always had contracts material or social that artists work within. While contemporary pop music is the recycled of detritus of all music before it. This is unsurprising in light of the sample, loop and other electronic music attributes which make music more democratized than before. However, the tremendous potential to create irreverent collage, both critical and engaged through sound, rarely seem to come to fruition within the existing systems of consolidation and the commonality of the afore-mentioned techniques. Largely we get the self referential, derivative and passionless attempts to placate our sensibilities focused on singles, snippets… sound-bites.

As part of an ongoing consolidation of programming around social space Muzak was acquired by the Mood Media Corporation in 2011. Mood Media's program consists of licensing songs from artists and placing them in another patented programming format they call Quantum Modulation, a mere iteration upon Stimulus Progression before it. Structures like the Muzak or Mood Media programs cloak their scientific methods in secrecy, hiding the sonic equivalent of McDonald's Secret Sauce (now in new original flavor!). *Why commission new unoffensive background music when plenty is already being made*?

Inequalities arise from open platforms that have been colonized by the interests of capital over the cognitive and social functions of art. The platform in the instance of digital distribution and content programming is based on prior platforms methods of understanding music, largely through amplitude and rhythm analysis. Expression within such a limited scope of possibility, is reforming the production of art at all levels of class distinction through the narrow suture of what is provided by the algorithm. Now we find ourselves caught in feedback-loop-culture, narrowing while abstracting in cyclical reifica-tion.

The power in sound is its ability to become diffuse in its environment. Music has maximum potential for resistance to and augmentation of existing structures which are

amplified by their own intangibility. The substance of time delineation is perfected in sound where it is inextricable from its own fluidity pointing to the radical redefinition of one's own lifetime. The messages within music, and its subcultures, shows us both the path of rupture (disavowal and refusal) through processes of inclusion as tools for insertion into preexisting systems.

Bibliography

Capital: A Critique of Political Economy
Karl Marx - Friedrich Engels - Samuel Moore - Edward B.Aveling -
Progress Publishers - 1954

The Human Motor: Energy, Fatigue, and the Origins of Modernity
Anson Rabinbach - University of California Press - 2016

Sirens 1991 (with addenda in 1993),
Max Neuhaus - Kunst + Museum, 1993]

Quasi una Fantasia: Essays on Modern Music
Theodor WiesengrundAdorno - Rodney Livingstone - Verso - 2011

Strange Sounds Led a Composer to a Long Career, New York Times, Steve Smithaug.

August 10, 2012

A Thousand Plateaus: Capitalism and Schizophrenia
Gilles Deleuze - Félix Guattari - Bloomsbury - 2015

Welcome to 'the disco', The Guardian, Clive Stafford Smith. June 18 2008