

Loving the Ghost in the Machine

Aesthetics of Interruption

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Ghosts

In science fiction, ghosts in machines always appear as malfunctions, glitches, interruptions in the normal flow of things. Something unexpected appears seemingly out of nothing and from nowhere. Through a malfunction, a glitch, we get a fleeting glimpse of an alien intelligence at work. As electricity has become the basic element of the world we live in, the steady hum of power grids and their flowing immaterial essences slowly replacing the cogs and cranks of everyday machinery, the ghostly rapport has also relocated into the domain of current fluctuations, radio interference and misread data.

Early telegraph experimenters heard strange raps and clicks issuing from disturbances in Earth's magnetic field, seemingly communication from some other side; Thomas Edison tried to put together a radio device to address denizens of other worlds; Constantin Raudive, Raymond Cass and Friedrich J. Årgenson spent hours and hours attempting to capture voices of the dead onto magnetic tape; radio antennas at Arecibo Observatory are pointed skywards, waiting for extraterrestrial signals. The presence of some outside force has always been supposed to be apparent through interference and interruption.

Actual facts about these manifestations are not really important. The interesting thing is that every new medium seems to open up a new kind of outside, every new mode of perception leaving out, or even creating, something imperceptible, and on the other hand bringing out something previously out of reach. Erik Davis has named the outside boundary of electronic media as the "electromagnetic imaginary," meaning that many animistic or alchemistic notions of essential energies and life spirits have been translated into the concept of electricity, and remaining in the "technological unconscious." Machines seem to be inhabiting some kind of life, even as it is an extension of ourselves. The sheer uncanniness of a disembodied voice transmitting via telephone line, as experienced by early telephone users, is quite hard to imagine now, but think of hearing a voice of a recently departed person on an answering machine.

We can remember Marshall McLuhan's words about electronic media having outered the central nervous system itself, thus making the world into a smooth plateau of perception. This rings true when considering digital media, which is characterized by

its transparency, its smoothness. Any type of information is de- and recodable into another format. This kind of flux and mutability of digital media makes it into an immersive environment, rather like sound.

So far, however, our conception of electronic media seems to have been very visually dominated and tied up to the more general link between the visual and the rational, which has been prominent in Western thought. However, many thinkers have also *heard* something new coming from the explosion of new media since the 19th Century. McLuhan wrote about the acoustic quality of the electronic global village he saw coming. German philosopher Wolfgang Iser, in his essay "On the Way to an Auditive Culture?" addresses the problem of oculo-centrism of the Western philosophical tradition and tries to create a conception of an auditive form of thinking. How to think of sound itself when the epistemological focus of our thinking and our concepts is located in a seeing subject? With its temporality and immersiveness, sound seems to avoid clarity, categorization and objectivity. Light and sight reveal objects, sound is the result of processes, of something happening and of mistakes: there can't be glitches without processes. The whole notion of glitch is tied up to an "auditive" thoughtform, which approaches the world as a multiplicity of processes rather than a pre-set field of objects.

The scratches and glitches of contemporary electronic music, its aesthetics of interruption and misuse, should be considered in relation to the ontology of the Outside, or its *hauntology* (to quote Derrida writing about hauntings and returnings). Contemporary thought has painstakingly strived to approach this outside of thought and perception. The subject and the world, if such separation can be made, are seen to be formed in complex interrelations between both. The subject emerges from the processes of the world. Deleuze and Guattari give these processes a name: machines. Machines are defined as "a *system of interruptions* or breaks" (AO 36), cutting and redirecting the energetic flows of preconscious world, which can be thought of as an infinitely complex assemblage of machines acting upon other machines acting upon others etc. A subjectivity is emergent and residual, having only a limited perspective upon the underlying world of forces it inhabits. Looking at our surroundings we *recognize* things, we are creatures of habit and conventions. Thinking, ultimately a creative act, is not recognition but an encounter, violence to thought. Something comes from the outside that interrupts and grabs us and forces us outside of our habitual territory.

By introducing the *refrain* Deleuze and Guattari have created a concept that illustrates the constantly shifting nature of relations between territorialized or habitual milieu and the chaos of the outside forces. A refrain, in the domain of music, can be described very vaguely as a rhythmic element, something marking out a territory amidst chaos: a nursery rhyme, a child's song to comfort oneself, a birdsong to stake

out a territory? Refrain doesn't, however, have just a reactionary function against chaos; it is situated in the middle and has a potential to both reterritorialize and deterritorialize sound, constantly on the border of a territory. Art has posited itself onto this border. Or, to paraphrase Deleuze and Guattari, all creative activity, whether it's art, philosophy or science, has to approach the outside of thought. To be able to create new ways to feel the world, new percepts and affects, one has to court the chaos and worship the glitch.

Machines

Contemporary electronic music has approached this outside of thought, or outside of music, by distancing itself from the hierarchy of Western classical music tradition, which has valued certain musical structures (such as melody/harmony) over another qualities (rhythm, timbre) and posited the score as a transcendent compositional principle. Deleuze and Guattari observe the deterritorializing tendency of refrain in music:

Certain modern musicians oppose the the transcendental plan(e) of organization, which is said to have dominated all of Western classical music, to the immanent sound plane, which is always given along with that to which it gives rise, brings the imperceptible to perception, and carries only differential speeds and slownesses in a kind of molecular lapping: *the work of art must mark seconds, tenths and hundredths of seconds.* (MP 267)

If art's quest is to bring the imperceptible to perception, music seeks to make audible the inaudible forces of time and duration, to bring out an immanent sound plane, a pure sound block, in which "forms are replaced by pure modifications of speed." (MP 267) How does one manage to get away from the grip of musical forms while being still able to retain a plane of consistency; to not regress into undifferentiated chaos which couldn't hold any consistency? This is the question of the refrain.

In order to become-other, one has to align with some exterior forces and create new machinic assemblages. That's why Deleuze and Guattari write that refrain isn't the origin of music but rather a means of preventing it, warding it off (MP 300). Becoming is an alliance. With music machines we have entered a new kind of musical alliance. Phonography, the art of recording sound, allows the production of a smooth sound plane, on which all relations between its various elements are immanent as recording extracts or constructs a block of time, a musical time that is present as sound penetrates our bodies, but emerges as a result from an (quasi)event which is distant from us spatially and temporarily.

One can see the effect of recording or sound processing technology as having helped in breaking with the traditional musical notation and the ideal of a pure musical form. Once all sound has become recordable and reproducible by machines, we can be done away with the concept of music as residing, ultimately, in the score. Phonography and electronic/digital media have flattened out the arborescent model of the actual sound's relation to a higher structure, that is, the composition itself as actualized in various levels of perfection in the performances of musicians. From machinic point of view (or hearing) there's no difference between voice and noise, we have only sonic stratum and various means to manipulate that sound matter.

The concept of frequency, according to German media philosopher Friedrich Kittler, brought about by recording technology, allows music to break with the Old European tradition of pythagorean harmony and notation as the preserver of clear and pure sounds (in opposition to the chaotic noise of the world). Since the 19th Century sound has been recordable, vibrations in a carrying medium transferable to a recording surface. "The phonograph does not hear as our ears that have been trained immediately to filter voices, words and sounds out of noise; it registers acoustic events as such." (Kittler 23) The phonograph hears sounds acousmatically, without a relation to the origin of a sound.

Using the concepts of Deleuze and Guattari, we can state that the phonograph deterritorializes sound, flattens down the hierarchical organization of music into a rhizome, which is an open, multiple and temporal form of organization and susceptible to constant de- and recoding. The act of recording is in one way already a creative act of framing and selection. Any recording is a whole in itself, all its characteristics are immanent to itself, without an essential relation to an exterior or higher symbolic order. However, up until the 1960s and the expansion of recording studio technologies, record was generally regarded as referring to an original acoustic event, a performance, which would have more ontologic value (i.e. "realness") than mere representation of it. Multitrack tape machines make that stance irrelevant; studio-as-instrument does away with acoustic realism. A particular soundscape, experienced as a unified whole, could have been assembled during many different takes and places, or wouldn't have to result from any acoustic events, as in computer music. Through the mixing board and the master tape, the record is the stratified surface of sound.

I hear no great conceptual divide between various music machines. Whatever means there are available for recording acoustic phenomena or presenting sound, no matter what the source, making sound reproducible and thus variable, all phonographic technologies have the potential to deterritorialize sound and music. Maybe the greatest singular moment in nomadic use (= an act of capturing forces, making a new machinic assemblage of existing machinic formations) of phonographic machinery has been the

emergence of hip-hop DJ'ing and the misuse of vinyl records, making a pair of turntables into a nomadic war machine. For a better part of the last century the record remained inactive, a storage capsule of time.

Apart from few artistic experimentations vinyl records were used as passive playback devices which always referred to some original event captured onto the grooves of the disc. In a parallel to the reinvention of the electric guitar by finding the aesthetic potential of the feedback noise generated by the guitar amplifier-circuit (and thus making electric guitar something other than an amplified replica of acoustic guitar), the DJ would find and learn to use the immanent forces within the record itself.

Radio, a medium which in the early 20th Century had a similarly all-pervading role as the internet has today, remained the primary medium of the DJ for a long time. The status of a radio jock rose from that of a salesman/entertainer to a central figure in pop business during the 1950s youth culture explosion. DJ as a sonic artist evolved somewhere else, however: in the *discothèque*, a club for dancing to recorded music instead of a live orchestra. The first discos were born in 1940s France during the German occupation that hampered the live music circuit. After the war some clubs stuck with the concept of dancing to records. This idea migrated elsewhere and in the 50s dance clubs experienced a massive leap in popularity with the advent of rock'n'roll and youth culture. We can see this as a sort of deterritorialization: instead of responding to the presence of performers the audience responds to the music and the forces it directs into the space it creates.

Disco as a musical style developed from the mantric/tantric heavy funk of James Brown, followed by others, which concentrated on the bass-heavy, steady and monotonously repetitive groove; a becoming-machine of the rhythm section. This style evolved into even more functionalist direction, downplaying the soul element of funk and delving solely in the groove. Record companies started producing long dance remixes of songs. Disco DJs wanted to create an all-night flow of music and that required a skill of seamlessly mixing records into one another. Any kind of music focusing on rhythm rather than melody could be used; DJ was becoming a curator-figure in the emerging club spaces, such as the loft parties in 1970s New York.

The conceptual leap of DJ from a curator (organizing a collection of works) to an artist (creating a work) happened in 1970s Bronx NY, when local DJs invented the isolating of the breakbeat and hip-hop: they would play only the rhythmic percussion breaks of funk records, alternating the same passage on two turntables, creating their own music. This rather crude skill of keeping the party going (with the help of an MC hollering encouragements to the party people) soon evolved into finer techniques of vinyl manipulation and collage. The DJ became a *cut chemist*.

Grandmaster Flash's 1981 record *The Amazing Adventures of Grandmaster Flash on the Wheels of Steel* was almost literally an encyclopedia of DJ techniques: crossfading, punch-phrasing, backspinning, cutting and scratching... Not only percussion was used as a sound source, almost everything could be dropped into the mix, all kinds of noise, as long as it was on record. In some ways a popularization of *musique concrète*, this meant a huge shift in the perception of music:

After Flash, the turntable becomes a machine for building and melding mindstates from your record collection. The turntables, a Technics deck, become a subjectivity engine generating a stereophonics, a hifi consciousness of the head, wholly tuned in and turned on by the found noise of vinyl degeneration that hears scratches, crackle, fuzz, hiss and static as lead instruments. (Eshun 14)

The turntable becomes not only a new kind of percussive instrument, it becomes a syntax-destroyer and a connective synthesizer in a Deleuzian sense (mixing this AND this AND this...). Record is a diagram, a map, rather than a tracing or writing. A map is

entirely oriented toward an experimentation in contact with the real... susceptible to constant modification. (MP 12)

Despite its inventors' wishes to provide a surface for the representation of an original event, a stable protector of the preceding mode of organization, the record became a destabilizer, weapon in sonic warfare (a nomadic war machine of sorts). DJ's hand is a *terrorwrist* "opening up a new field of objectile thought: fingertip perception" (Eshun 18). A deterritorialization of hand and record in the machinic assemblage of scratching.

The phonographic diagram, given its direct transduction of physical wave to mechanical impulse or electrical signal, provides a code both precisely reproducible and potentially editable. ... [W]here the score represents, phonography simply transduces... As soon as the deterritorialization of sonic matter into vinyl abstracts it from the moment, and makes music into this random-access memory available time and time again, the sonic matter is susceptible to temporal mutation, warping, looping. (Mackay 250)

DJ's (ab)use of vinyl is a *derangement* in every sense of the word. Scratching deterritorializes the noise on the grooves, bends the spiral grooves into lines of flight; scratching rips its source material from the record, transforms the ideal into matter to be molded, cuts into syntax to isolate words and phrases, achieving an Artaud-style decoding of language systems (both human and musical). A scratch takes up a block of recorded time and folds it up in baroque flourishes like a cloth. Scratching makes

audible the flow of time and matter, the flow and the machines that cut it, and creates a vinyl psychedelia = *scratchadelia*, a machinic refrain, a becoming-vinyl of music.

A digital counterpart to the scratch is the often-mentioned glitch. A precariously vague term, which however captures some of the slipperiness of digital media. If analog phonography has led to some sort of metallurgy of sound, made sound malleable and mutable, digital sound processing approaches sound as molecules. The term *microsound* is very appropriate for the digital music of today. Or, if we take heed of Kim Cascone, we should be talking about post-digital music, since the medium of digital technology has become so transparent it doesn't reflect in the expression of music anymore. Instead specific sound processing tools, such as Max, AudioMulch or SoundForge produce an auratic sound, as well as providing amazing detail and accuracy in manipulating sound.

With glitches, however, electronic music producers embrace the uncertainty John Cage was talking about. Cracked and malfunctioning soft- and hardware, overloaded operating systems, wrong file types opened as sound documents produce unpredictable sounds, sometimes a ghostly unpresence of sounds outside hearing range or gaps in recorded time. Glitches, clicks and cuts are the sound of sound machines molecularizing, atomizing and ionizing sound, making audible the process of sound itself. If we must make a distinction between the scratch and the glitch, it is this: scratching is the folding of recorded time, metallurgy of sound, taking a flow of matter and producing variations of it. Common to music and metallurgy, according to Deleuze and Guattari, is the tendency to "bring into its own, beyond separate forms, a continuous development of form, and beyond variable matter, a continuous variation of matter," in short to bring out the "life proper to matter." (MP 411)

Glitch, in digital domain, happens on a more abstracted level of decoding that results in molecularized matter. Going beyond the matter form -division (which scratching can be seen starting to evaporate with its variations on matter) the molecularization of sound

effects a dissolution of form that connects the most diverse longitudes and latitudes, the most varied speeds and slownesses, which guarantees a continuum by stretching variation far beyond its formal limits. (MP 309)

In both cases, the scratch and the glitch, sound has escaped the overcoding symbolic order of music, or the transcendental plane of organization of the score, in nomadic alliance of man and machines.

James Brown's *Sex Machine* and Kraftwerk's *Mensch Maschine* define electronic music's identification with machinery with their twin poles of "raw" physicality and

"pure" spirit/intellect. To dance as mindless robots or to think music as an incorporeal AI. This all-too established dualism has been broken down at times by the music machinery's potential to fuse down the two poles and to break down, to express glitches. Dance music, which might at first thought appear as a musical form most tied up with the reterritorializing function of the refrain, with its strict adherence to certain genre-bound norms, appears however as a machine for liberating sound-in-itself. Rhythm: blocks of sound arranged rhythmically, one after another, one beside another, like the instant pop images of Warhol paintings. Repetition makes the thing repeated (the thing *not new* anymore) present again. Each repetition (a simulacrum of the "original", if any is to be found) is an event in itself;

Repetition *and* first time, but also repetition *and* last time, since the singularity of any *first time* makes of it also a *last time*. Each time it is the event itself, first time is a last time. (Derrida 10)

This repetition, this constant *now*, can be seen in dance music's lack of drama (or constant crescendo); the changes in music are *quantitative* instead of *qualitative*, its narrative is the happening of repetitions. Dance music seeks to build a plateau of intensity. Any vertical, arborescent models are flattened by the rhizomatics of repetition, which undoes the symbolical or critical form of thought. According to Roland Barthes, critique is always either historic or futurologic, its content is culture which equals everything that is inside us, *except the present moment* (Barthes 32).

Electronic dance music sounds astonishingly non-temporal: repetition makes the track happen in the constant now, concentration on the *sound of sound* (timbre and "color" and texture, the most difficult-to-remember-afterwards- and the most deterritorializing aspects of sound and music) fades it from the memory. Repetition is a way of appearing without form, without identity: it multiplies the same element over and over again, juxtaposes the element with its each successive re-emergence, brings out the differences by bringing out the *gaps* between singular repetitions, forms a machinic assemblage out of the circulation of sound blocks. Musical repetition: loops within loops, clashing against each other, *loopduelle*. The audibility of these juxtapositions is a textuality of differences and differences mark out the repetitions = returnings = soundghosts.

As the repetition builds up a smooth plane of constant present, deterritorializing the sound itself as a singularity, a sonorous force, there's a tendency for that repetition to become reterritorialized as a cliché, an all-too expectable formula; this seems to be a potential dead-end for numerous genres of electronic dance music. A glitch appears: a wrinkle in time of the constant present. If we listen to an archetypal glitchy sound, an Oval track for example, we can hear a rich tapestry of sound and absence of sound. There are skips, something is missing, there are holes in the smooth space of sound.

Or we can consider Kim Cascone's concept of residualism that involves structuring a work around an absence, removing a signal and leaving only its effects to be heard. Scratching, sampling and the stuttering of malfunctioning soft- and hardware are means of derangement, seeking out a way to make a rhizome out of music, a way to place its elements in continuous variation, where absences, breaks, holes, folds and ruptures can be a part; a way to let ghosts of the outside in.

Love

"[M]achines work ... by continually breaking down..." (AO 8), producing anti-production, creating gaps and glitches. One has to remember we're talking about *desiring* machines and art's ability to reflect the formative processes of machinic pre-conscious world, which is libidinal. As Jake Mandell observes in his liner notes for his album *Love Songs for Machines*, artists' relation to their tools of the trade has always been fetishistic. A favorite pen of the writer, a beloved brush of the painter; it's always been intimate. Mandell writes that the once-close relationship of artists and their tools has encountered a crisis in the digital age, the screen and mouse -interface is abstract and alienating. Still, as an immersive environment, digital media allow for an exceptionally affectionate experience.

As tool-using creatures (among other such creatures) we've always been cyborgs. "[T]ools exist only in relation to the interminglings they make possible or that make them possible." (MP 90) That is to say, tools imply a symbiosis between two bodies in a machinic assemblage, deterritorializing them both. Think of Roland TB-303 Bassline Generator, becoming an Acid Machine through a glitch, a programming mistake, releasing a whole new spectrum of sounds, transforming both the musician and the instrument. It's a two-way relation: we can well take heed of Kodwo Eshun's conception of human beings as the sex organs of synthesizers. New sounds happen between things, in the movement that sweeps you and your computer to somewhere else: in order to effect deterritorializations you have to love your machines.

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List of abbreviations:

AO = *Anti-Oedipus*

MP = *A Thousand Plateaus*[*Mille Plateaux*]

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