ECHO

a journal of music, thought and technology

ORPHEUS INSTITUUT

Title:	Paths through Pasts
Subtitle:	The Navigable Archive in Trance Map+
Author(s):	Evan Parker and Matthew Wright
Issue:	ARCHIVE(S)
Publication date:	20th November 2020
Article DOI:	20th November 2020

Abstract:

The audio archive is a fundamental trope in post-DJ musics. Vinyl records and digital sample banks represent a store of potentially endless reconfigurations of pre-recorded material, and the role of the post-DJ performer is to make new paths, new connections through and between previously fixed material. The Trance Map+ project represents an interrogation of the fixed archive, and represents a constant reassessment and renewal of audio information through a cyclical process of live sampling and processing, onstage remixing, studio editing, dissemination and international collaboration. The term 'navigable archive' is suggested here as a new term to describe the site of this increasing fluidity between recording and performance.

NOTE on contributions:

text by Matthew Wright, interview responses by Evan Parker (and presented in italics beneath)

NOTE on navigation:

This article represents a map with a number of 'paths' through audio and video recordings, texts, interviews and original writing. The work can be experienced as a linear progression, or the reader may wish to follow the #links at the bottom of each paragraph, 'scratching' through the text and reinvigorating the material.

We climb a mountain, take a photo of a waterfall, we send it to the cloud and it takes its place alongside photos of previous climbs and previous waterfalls. At home, safe from the climb, we scan through those memories, we can skip directly to the image we need. We edit the image, file it with other images of other waterfalls, or perhaps flip the photo 180 degrees, so the water seems to evaporate into the ether. We might even rotate, edit and crop the photo whilst still on the climb. Further still, we might edit other images of other waterfalls on other climbs whilst still navigating a path home, curating the archive of our past experience whilst being careful not to fall.

This analogy is not so different from the role of the audio archive in improvised music: the sample taking the place of the photograph; the waterfall a metaphor of the flow experienced by improvising musicians; the rotating, flipping and cropping of images not so dissimilar from the rotating, flipping and scratching of vinyl records; the accessibility and reconfigurable position of the image on the storage device not so different from the ways samples are recorded live and instantly stored, assuming locations within maps of sound, becoming accessible reference points within

navigable archives. This process requires a technology which affords non-linear access to any part of a musical archive at any time and especially (as in the case of improvised music) the ability to enter into machine memory and to extract an audio file within seconds of it being recorded and stored. Software packages such as Ableton Live and Serato - intended for club usage but found with increasing ubiquity in many forms of early 21st century music — allow this seamless 'blurring of playing, mixing and editing' and offer the potential for a new form of musicianship: a hybridised assemblage of the roles of improvising performer, composer, sound designer and producer.

This hybridity of roles has been at the heart of my work in *Trance Map*, a collaborative project with Evan Parker which began as a studio composition in 2008 but has unfolded outwards since 2014 to become *Trance Map+*, a flexible live ensemble appearing in Europe and the USA with special guests such as percussionists Toma Gouband and Mark Nauseef, bassist Adam Linson, 'cellist Hannah Marshall, electronic artists Spring Heel Jack, clarinetist Ned Rothenberg, trumpeter Peter Evans or electronic pioneer Ikue Mori. This ongoing project provides not only joyous musical encounters, but a chance to think about the connections between music, thought and technology and to reflect on how archiving (and particularly archiving sound) is no longer merely a documentary pursuit, but a provocation towards a new creative act. This notion relies on a shift of focus away from the archive as noun, as institution, as static architecture. For many theorists it is the architecture of the archive that itself can inspire an almost religious devotion. Cameroonian philosopher Achille Mbembe claims the archive has:

> [...] neither status nor power without an architectural dimension, which encompasses the physical space of the site of the building, its motifs and columns, the arrangement of the rooms, the organisation of the 'files', the labyrinth of corridors, and that degree of discipline, half-light and austerity that gives the place something of the nature of a temple and a cemetery: a religious space because a set of rituals is constantly taking place there [...] and a cemetery in the sense that fragments of lives and pieces of time are interred there, their shadows and footprints inscribed on paper and preserved like so many relics.

Mbembe, A. 2002. The Power of the Archive and its Limits. In: Hamilton C., Harris V., Taylor J., Pickover M., Reid G., Saleh R. (eds) Refiguring the Archive. 19

However, as Schwartz and Cook point out, digital technologies release the power of the archive as a verb:

> As anyone who visits web sites knows, in the world of information technology, 'archive' is used as a noun to describe a machine-readable location for older data ('older' meaning anything from several months to an hour ago); 'archive' is also used as a transitive verb for the action of transferring computer data to a place for infrequently used files […] While cultural theorists and information technologists both embrace the notion of an archive as a store of information, the former conceives of the archive as a source of knowledge and power essential for social and personal identity, the latter views the archive as a neutral, even mechanical, accumulation of information for safe keeping.

Schwartz, J.M., Cook, T. 2002. Archives, records, and power: The making of modern memory. Archival Science 2, 1–19

In the last quarter of the twentieth century, we see these highly contrasting notions of the archive best expressed in the medium of sound recording. With the work of the World Soundscape Project and the development of acoustic ecology as a field, R. Murray Schafer and others used audio recording to document examples of the 'hi-fi soundscape' to preserve the unique sonic characteristics of natural locales in order to resist, via archiving, what Kendall Wrightson (2002) outlines as a decline in sonic diversity: "[...] since the industrial revolution, an ever increasing number of unique soundscapes have disappeared completely or submerged into the cloud of homogenised, anonymous noise that is the contemporary city soundscape, with its ubiquitous keynote—traffic." (Wrightson 2002, 10).

By contrast, Derek Bailey saw archiving via audio recording as anathema to the spirit of improvised music:

> Too little of improvised music survives recording. One of the reasons is quite simple. The technical illusions practised in recording ('live' or studio) are inimical to the constantly changing balances and roles which operate within most free improvisation. Recording devices such as reduction, 'presence', compression limiting, filtering and stereo picture, usually serve only to fillet out or disturb quite important elements. But much more important than the limitations of the technology is the loss during the recording process of the atmosphere of musical activity - the musical environment created by the performance.
>
> Bailey, D. 1980. Improvisation: its nature and practice in music. 103

If there were still contrasting and contested opinions about the validity and power of audio archiving in the professional field, the twentieth century also saw a shift in the usage of the audio archive in the domestic setting. The neatly preserved record collection and the CD box set inspire the kind of devotion of which Mbembe writes, and Baudrillard (2005) reminds us that the function of all collections is to suspend chronological flow: "[…] the organisation of the collection itself replaces time. And no doubt this is the collection's fundamental function: the resolving of real time into a systematic dimension." (Baudrillard, 2005, 102). This systemisation of the collection is the very thing that opens up those archives to the potential for radical recontextualisation. Baudrillard goes onto say that the collection: "[...] abolishes time [...] by reducing time to a fixed set of terms navigable in either direction." (ibid. 102)

The idea of the navigable archive in the history of music (and therefore, the dislocation between sounding act and its visual representation) is nothing new, of course. One history of music might posit the technology of musical notation as a useful tool for separating the sonic from the chronological; offering a fixable spatial representation of a fluid medium: a score as a way to systematise chronological flow. Kittler (1999) updates this when discussing time-axis manipulation with gramophone records in the 20th century, claiming the medium intrinsically links movement across the surface of a record with a nuanced - but nonetheless specific - movement forwards and backwards through time. Any suggestion, however, that a specific point on a page or groove on a record or location on a timeline somehow represents a precise archive of an *infinitely re-visitable experience* is unfortunately far harder to support. We immediately forget that any experience of time cannot exist in a temporal vacuum, to be merely opened up and experienced again in exactly the same way. Indeed, as Schäfer, Fachner and Smukalla (2013) write:

> […] the relationship between the experience of time and the temporal structure of events in the real physical world is neither linear nor following a fixed rhythm or pulse. What we experience as now or present is a mental act of integrating a certain number of perceivable stimuli […] into a single unit of content within consciousness (referred to as a time object). Time objects are embodied entities […]

Schäfer, Thomas et al. 2013. "Changes in the Representation of Space and Time while Listening to Music." Frontiers in Psychology vol. 4 508.

If the exact, embodied experience of a specific time object cannot be theoretically repeated, things get interesting when the musical characteristics of those time objects become archived, and those archives themselves become musical material for future iterations. This results in an assemblage of temporal locations: the time (and musical timing) inherent in the original recording; the point in a performance or during a listening process when that recording becomes codified as a series of time objects (recordings/samples), the point in time within which that time object is 'repeated' and manipulated to define a new time object, and so on.

For composers like myself, who became teenagers in the 1990s and balanced conventional musical training with an awareness of digital musical instruments, the notion of composing with digital sound recordings as musical material (and the potentials for temporal assemblage as mentioned above) became a realistic, relatively affordable possibility. In that transition from analogue to digital sources (from the vinyl record to the floppy disk), the materiality of musical time moved from something one could control with your hands on the turntable (Kittler's linearity) to something one would sculpt on a computer screen, potentially multi-tracking, timestretching and editing temporal events into endlessly reconfigurable and navigable combinations.

Thus for composers influenced by hip hop and interested in digital sampling in the late 1980s and early 1990s, the very act of sample manipulation moved from an embodied activity at the turntable to a sedentary one at the sampler or computer, and with that the notion of musical time entwined with physical gesture (an idea constantly interrogated by electronic composers throughout the 20th century) became tested once more. This dislocation between gesture and sound was felt more broadly across the wider electronic music spectrum with the dissemination of MIDI technologies. Indeed as Nic Collins (2015) states:

> MIDI "exploded" the musical instrument, separating sound (synthesizer) from gesture (keyboard, drum pads, or other controller)—we gained a Lego-like flexibility to build novel instruments, but we severed the tight feedback between body and sound that existed in most traditional, pre-MIDI instruments and we lost a certain degree of touch and nuance.

Collins, N. 2015. "Semiconductor: Making Music after the Transistor" in Musical Listening in the Age of Technological Reproduction. 1

In my own work with technology hewn from DJ culture, there has been a particular interest in retaining that sense of touch and nuance. The turntable still has a healthy potential for resistance, for accident, for microgesture: exactly the properties I believe Collins is referring to in relation to traditional musical instruments.

The lack of digital precision with the turntable requires an acute awareness of the balance between materiality and sound. This knowledge of how an apparently stable archive such as a vinyl

record might warp or skip in certain circumstances, and how those skips can be developed into a new musical syntax is, I would argue, an example of how cognition, materiality and temporality are inherently entangled at the surface of the vinyl record. This supports the notion that musical entanglements such as these help us understand the environmental conditions crucial to thought. As Walmsley and Marsh (2008) write:

> [….] the mind is essentially 'situated'. Embodied, embedded and distributed approaches try to understand cognitive systems with reference to the bodies, environments and social structures in which they are physically situated. Dynamical cognitive science tries to do justice to the temporal situatedness of cognition, by emphasising the importance of time and timing. [...] Whereas classical cognitive science was concerned with abilities such as chess-playing and logic-crunching, many now see abilities such as sensorimotor co-ordination and obstacle avoidance as central.
>
> Walmsley, J. and Marsh, L. (ed.) 2008. "Methodological situatedness; or, DEEDS worth doing and pursuing." Cognitive Systems Research 9. 150

Whilst an overly-simplistic take on this argument might see chess-playing as an interesting metaphor for studio-based music production with digital audio workstations (DAWs) and sensorimotor co-ordination / obstacle avoidance as a helpful (but not exhaustive) way of observing how improvising musicians navigate new musical territory (at their instrument or within an ensemble context live on stage), of course nothing is ever that simple, particularly when digital technology intervenes in the performance process.

A focus on *time and timing* becomes compounded when the tools for improvisation are themselves recordings of previous performances, each bringing with it a new temporal location to add to the assemblage. In a *Trance Map* performance a temporally situated, 'located' gesture at the turnable might result in an algorithmically 'dislocated' sonic result, and this makes the combination of nuance at the turntable and systemisation at the laptop still such an enticing proposition: an investigation of archive as both noun *and* verb.

With the critical discussion of turntable-based performance and terms such as avant, abstract and arthouse turntablism growing since the 1990s, there is now a well-worn argument that distinguishes the turntablist from the DJ, using the term turntablist to denote a turntable-based instrumentalist capable of working within, alongside, in playful or in antagonistic relationship with DJ culture. Whilst there is a long lineage of experimental turntable use by artists such as Christian Marclay, Philip Jeck or Otomo Yoshihide as outlined by Katz (1999), more recently Spring Heel Jack, DJ Sniff, Maria Chavez or Mariam Rezeai are all reinventing the notion of the archive from the post-DJ perspective. In this sense, avant turntablism is one strand of a family of post-DJ musics (those sonic practices that use turntables, DJ mixers and controllers, CDJs, laptops running loop-based sampling software and/or dub-influenced sound systems) to search for 21st century approaches beyond those prescribed by the 20th century nightclub. One concept fundamental to the notion of post-DJ thinking is an expanded grasp of the continuum between temporal locatedness (the sense of this happening 'here and now') and dislocation (this happened 'then' or is happening 'there'). This interrogation between the act and the archive - between the live and the mediatised - recalls Auslander. He writes:

> [...] the live now derives its authority from its reference to the mediatized, which derives its authority from its reference to the live, etc. The paradigm that best describes the current relationship between the live and the mediatized is the Baudrillardian paradigm of simulation: "nothing separates one pole from the other, the initial from the terminal: there is just a sort of contraction into each other, a fantastic telescoping, a collapsing of the two traditional poles into one another: an IMPLOSION.
>
> Auslander, P. 2002. Liveness: Performance in a Mediatized Culture. 43-44. Journal of Aesthetics and Art Criticism 60 (3):285-287.

Whilst the vinyl record is designed to play from edge to centre, if we consider it as a navigable sonic archive (with the stylus as the tool for non-linear access of that archive) we can view the vinyl record and its associated technologies as extremely helpful tools for exploring temporal (dis)location, for the creative re-curation of sonic archives. The crossfader can be used to 'hide' certain parts of a mix, the turntablist editing and preserving parts of the musical present in order that they be better represented in a future musical scenario. Vinyl DJs learn to beat match, to synchronise the sounding tempi of two pieces of plastic that are actually spinning at a much more complex ratio, whilst DVS (Digital Vinyl System) DJs understand that the speed with which they manipulate the timecode vinyl under their hand bares little or no relation to the actual speed of the data processing going on within their laptops.

Whilst a white Western approach might immediately presume that sonic investigations of temporal dislocation are notions born in the European/US avant garde, Michael Veal suggests this interest in dislocation can also be traced back to artists from across the African diaspora, most notably those working within dub music in the mid 20th century, and particularly their use of the rupturing effects of delay and reverb:

> [...] the sensations stimulated by reverb and digital delay devices - either cavernous spaces or repeated sounds, respectively - can be subsumed under the commonly used term echo. In the sonic culture of humans, the sensation of the echo is closely associated with the cognitive function of memory and the evocation of the chronological past; at the same time, it can also evoke the vastness of outer space and hence (by association), the chronological future.
>
> Veal, M. 2007. "Starship Africa: The Acoustics of Diaspora and of the Postcolony in Dub". Soundscapes and Shattered Songs in Jamaican Reggae. 198.

Where might this chronological future be? Can we point to it? In traditional musical notation, we use the linear format of the score to assess "where' in the music we might be: notation is used to *locate* sound. We think of rehearsal letters in a score as denoting a point in time, a fundamental leap from the chronological flow of musical experience to the representation of that experience on a two-dimensional spatial plane. Traditional DAWs have locators that can snap the arrangement to a specific point on a timeline, to locate a specific sonic event against a metrical or chronological grid, a kind of sonic GPS. Recent developments in mapping technologies (that shift the role of map reading from a sedentary position at a table to realtime updates whilst the viewer physically navigates their environment) help us understand that the process of mapping is an impossible struggle between the presumed accuracy of archiving and the situated cognition of physical experience. As Jerry Brotton (2013) writes, maps will:

> […] inevitably pursue a particular agenda, insist on a certain geographical interpretation at the expense of possible alternatives, and ultimately define the earth in one way rather than another. But they will certainly not show the world 'as it really is', because that cannot be represented. There is simply no such thing as an accurate map of the world, and there never will be. The paradox is that we can never know the world without a map, nor definitively represent it with one.
>
> Brotton, J. 2013. A History of the World in Twelve Maps. 445

Therefore, in the *Trance Map* project, this oxymoron is used to denote the fusion of a dynamic, shifting archive (containing recordings lifted from past performances) placed in dialogue with a hungry search for new configurations of those objects, new temporal assemblages made in trance-like states of improvisation.

Evan Parker:

> *What would a Trance Map be? Well, yes, literally it would be something slightly contradictory. […] But I responded immediately to the poetry of it. […] Well if there's a map, where's the trance, and if there's a trance, why do you need a map? [..] Memory is a kind of map, a map without paper, right? OK, before you can have a map, you have to have an understanding of first of all: what is the system of mapping? And what is the subject to be mapped? Both of those things happen as mental processes before you need to pull out a pencil and paper or a keyboard. […] that's the contradiction. No more of a contradiction than the idea that music that is played once can be played a 1000 times once it's recorded. These are inherent in the way musicians live these days. And when you start to use repeats and loops and altered samples and reconfigured (sounds), some of that is mapping, but some of it takes place in a trance-like mood as well. Once you start to play the software, you're also in an altered state. To some extent, the state is altered by the feedback with the sonic results, the sonorous results.*
>
> *(Parker, 2018)*

We are therefore presented with an interesting paradox: to archive as verb is to destroy the archive as noun, in order that a new archive can be made. To extend the analogy at the top of this article, we are caught in a perpetual cycle of feedback between photographing and feeling the friction of the waterfall, a form of curation that borders on performance, and a form of performance that borders on curation. In discussing Maria Lind's *Performing the Curatorial,* curator Johan Lundh (2013) states:

> Lind's most basic proposition is that curating makes art go public. From this tenet, she asserts that performing the curatorial extends beyond the seemingly simple task of making art public through the layered processes of framing, post-production and montage, highlighting the temporal qualities of curating, and arguing for its potential to create friction and produce new ideas.
>
> Lind M (ed.), reviewed by Burns A and Lundh J. 2012. Performing the Curatorial: Within and Beyond Art. 162.

This friction is mirrored in *Trance Map+* and a shared language of framing, post-production and montage of live performance. The particular nature of the musical present that exists in a *Trance*

Map+ performance, the responsibility of live performers to both contribute new musical material from their instruments, but to also acknowledge that samples of that material may reappear (transfigured or entangled with other objects from the archive, or indeed to wrestle with live processed versions of themselves) means that the neatly curated frame of the pre-recorded archive must be broken, in order for new objects to enter, to disturb, to synthesise and repopulate the archive. Wastage is a part of this process: grooves on records gradually become obliterated, reeds crack and files on the hard drive can be instantly 'trashed'. This ancient dialectical struggle between the urge to archive and the creative need to destroy is best captured by Christoph Cox recalling Nietzsche: "[the] Apollonian is a gallery of 'appearances,' 'images,' and 'illusions,' while the Dionysian consists in the perpetual creation and destruction of appearances." (Cox, 2018).

To assume that this cycle of destruction / transformation is clear cut, or is a purely technological pursuit is to miss the point, however. At its core, *Trance Map* music is fundamentally rooted upon a fluidity between two states: the instant recall of archival materials (be they etched in muscle memory, acoustic instrument design, vinyl records, sample banks, etc.) and listening/finding/searching reflexes honed towards re-contextualisation and invention. As Evan states, this too needs a nuanced understanding:

> *I don't think improvisation is an especially precise term and not especially useful at this point. […] to say that when I pick up the saxophone (an instrument I've been playing for a bit less than 60 years at this point) […] and to pretend that I'm playing for the first time, or to play it with the 'beginner's mind' can only ever be an idealised form of spontaneity and creativity. The truth is, you're going to use a lot of the material the last time you played and that's how coherent progress is made. Memory is about the past, by definition, but you can also have an anticipation, a visionary sense of where things are going, so you can anticipate or try to look ahead, try to think ahead. And all of those things are in the moment.*
>
> *[...] One minute you are consciously attempting an 'ancient' quality, and then there's a 'futuristic' quality and it morphs from one to the other and can shuttle backwards and forwards and in a way that's the same as starting a sentence in the middle.*
>
> *[...] what was the slogan of the Art Ensemble of Chicago? Ancient to the Future. I think that's an important philosophical framework for everything that you do: that it has to relate to what's been done already, but it has to relate to what hasn't been done. It has to have that dynamic relationship between the past and the future, which energises the moment: that's where the moment's energy comes from.*

Lets assume that any given moment in a *Trance Map+* performance we may call upon the archive of a previous musical encounter, stored on vinyl, or on the laptop hard drive, or in the muscle memory of our collaborators. The catalytic potential to energise that moment is directly linked to the accessibility of the archive, the navigable potential of the storage medium. In this case, the wide open surface of the vinyl record, despite its fluctuating role in the development of electronic music in the face of newer technologies (and current resurgence as hipster object of choice) still affords a wide diversity of access, a width of approach, a site for radical experimentation.

Before the developments of hip hop scratch technique, Patteson (2016) reminds us of:

> Moholy-Nagy's proposal for the productive use of the gramophone [...] Instead of recording sound with microphones, he suggested, artists could make inscriptions directly onto the wax disc by hand. In this manner, they could 'produce sound effects which would signify - without new instruments and without an orchestra - a fundamental innovation in sound production (of new, hitherto unknown sounds and tonal relations) both in composition and in musical performance.' Going further, Moholy-Nagy called for a methodical study of the correlations between inscriptions and their sonic effects in order to establish a 'scratch-writing alphabet' encompassing all possible phenomena of sound, and so to create the 'universal instrument' that would render all previous instruments superfluous.
>
> Patteson, T. 2016. "Sonic Handwriting": Media Instruments and Musical Inscription." In Instruments for New Music: Sound, Technology, and Modernism. 88.

David Toop (2004) reminds us of the particular temporal space the vinyl record takes: a limbo between archived past and dynamic future, perhaps one that has ritualistic associations that recall Mbembe's definition of the archive:

> Unlike CDs and other digital playback formats, the record is an object that perfectly symbolises and embodies its morbid role in the preservation and transmission of sonic culture. A spiral scratch, it's gleaming dark circle into which memories are poured, only to emerge again as ghost voices, life preserved beyond death. Frozen in time within the grooves, a voice, an instrument, a sound, becomes the living dead and is worshipped in the way a loved one, deceased, may be adored for years by the bereaved.
>
> Toop, D. 2004. Haunted Weather. 164.

Just as a memory may produce adoration or pain, access to the archive is not without its resistance: not every approach will yield helpful results. As Evan states:

> *When you have an instrument - let's call it a saxophone - let's say its a tube with holes that open and close under the control of fingers, that's say there are only various ways in which you can address the instrument that would make sense (or most sense) of the way it is constructed. [...] by extension of that fact, there are certain kinds of starting positions which would make no sense at all, because they simply will not produce any interesting modification of the instrument's behaviour.*
>
> *[...] The best chance of doing something you've never done before is when [...] you pose yourself a problem [...] not quite knowing what's going to come out. But you quickly adapt [...] if it works, that sets me down a path I've never been down before.*

However, when this new path itself contains shards of past music or digital manipulations of the musical present, things get interesting, suggesting multiple, rhizomatic potentials for the future development of the improvisation:

> *[With a duo] you're taking what the other person does as a source of inspiration or diversion and I guess when you're talking about live processing, it is doubly complicated because you have some sense that the processed sound is only happening because of something you did. But is it because of something you're doing, or is it something you did, how long ago did you*

> *do that, and what was it and where was it going next? […] the mind is split by considerations.*

This confusing temporal assemblage, between the live and the processed, between the acoustic and its digital shadow, reminds us of Veal's writing on the power of reverb and echo, of the power of processing to suggest a chronological future. Whilst delay might be considered a radical form of archiving, creating iterations of the initial audio signal that repeat outwards into the ether, things get even more interesting when simple algorithmic processes disrupt conventional delay patterns, keeping the initial sample 'in play', alive with catalytic potential in the musical present rather than marking its own entropy into the past. This simple computational decision making keeps the musical situation active, like a chase into the future, especially when those software-based decisions take place in dialogue with, or ahead of any physical input. As Evan says:

> *Yes, you are in control of the speed at which the software executes decisions, not just necessarily one, but it can trigger a whole sequence of decisions that can become faster than any physical input from you. The computer keyboard then becomes an interface between you and the software, and the software has its own speed. And ideally the (computer) keyboard disappears, in the same way the saxophone disappears when playing: you're not thinking about fingering patterns specifically anymore: you're playing an instrument and the job is to connect your mind to the sounds the instrument is making and have the physical interface disappear.*

This idea of disappearance of the physical interface speaks of fluidity, of an unrestricted openness to the instrument and thus to future creative potential. Matthew Fuller reminds us that this is also the ideal in software design, but that the human computer interface (HCI) can be a point of tension between flesh and code. He warns that: "the loop between stimulus and response [can be] tightened into a noose. This is the fatal endpoint of the standard mode of HCI. It empowers users by modelling them, and in doing so effects their disappearance, their incorporation into its models." (Fuller, 2003)

In *Trance Map+* the 'interface' can be read as an assemblage of any number of visual/physical surfaces; the embouchure/fingers in contact with the reed/keywork of the saxophone; the fingers in contact with the vinyl record; the physical pressure on the record resulting in tempo fluctuations at the turntable; the choreography of the hands at the mixer; eye co-ordination and trackpad gestures within the DAW; the physical placement of the speakers in the space for multichannel sound design. Each in its own way can function as a notation of past performances, and as a map with potential navigable routes, paths towards the future. The simplicity of map as noun falls down when we accept that any of the surfaces above can activate radical change in the music, and that those changes may become the established repertoire for the next performance. Each technology utilised in a *Trance Map+* performance affords us different paths and differing *terrains of access* through the map, so that the differing forms of pathmaking may be considered a kind of repertoire, a *repertoire of retrieval*. Like the practicing of musical scales, this repertoire becomes so 'learned' that it can be 'forgotten', just as conventional fingering patterns on the saxophone become redundant in the 'trance' of an Evan Parker solo. When working with software, however, this trance-like openness to free association is always in dialogue with the inescapable issues brought up concerning HCI.

An example of a stark contrast between 'trance' and recall in interface design is the keystroke or mouseclick: in software such as Live, this is a brutal, flat recall: it drags any moment of musical history (including previous milliseconds) into a sudden 'now'. In this situation, the path to retrieval is

almost imperceivable, a sound is located in an archive and triggered. Stepping back from the bluntness of that approach, however, *Trance Map+* posits other, more nuanced forms of retrieval. With a laptop the user may need to scroll, to drag, to drop; with a turntable the scrolling for records takes place with the fingers, the record is dragged from its sleeve, the needle is dropped.

With crossfading at the mixer, we have the chance to slide through layers of memory, to gracefully recall one past moment and gradually replace that with a new present as the previous present slides into the past and so on. With transpositions of a sample we push our memories into elevated or lowly positions, sometimes creating radical zig-zags at the trackpad resulting in a hyper-portamento between octaves, or with a wobbling vibrato at the surface of a record, exposing the fragility of the apparently stable archive. Recalling Kittler, we gradually slide the pitchshifter at the turnable to compress or expand duration (rather like kneading bread!) or we instantly double/quadruple the rate of timestretch or time-compression, literally folding time into itself or unfolding it outwards. With the application of reverb or delay we recall Veal once more, dislocating and refracting the sample, pointing it Janus-like towards both the future and the past. By utilising locked grooves we scan the same musical location again and again, or via 'half contact' techniques we achieve the same musical result, but the mode of retrieval is radically different, a strange binary between definitive location and the needle left hanging: a glimpse of a thought and an immediate pause for breath, a clarifying space between action and object. With scratching, we are literally erasing the past: if the record is scratched enough, everything eventually becomes noise, chronological distinctions become flattened.

Lead-out

But what about about jumpcuts, random needle drops, fracture? What about disrespect for the archive? Here we see the archive come alive again, not as the preservation of codified, organised memory, but as a venue for new thought, as a catalytic terrain. In this sense, *Trance Map+* represents a loop of fixity and fluidity: we look to the map for documentation of a certain path, but in walking that path we erase what went before, only to fall back on *documentation of the erasure of that path* and so on and so on. The trance and the map become hybridised: if we loop back to the top of this article and look closely, we realise the waterfall is pixellated.

REFERENCES

Auslander, P. 2002. *Liveness: Performance in a Mediatized Culture*. 43-44. Journal of Aesthetics and Art Criticism 60 (3):285-287.

Bailey, D . 1992. *Improvisation: Its Nature and Practice in Music*. 103.

Baurdillard, J . 2005. *The System of Objects*, trans. James Benedict. 102.

Brotton, J. 2013. *A History of the World in Twelve Maps*. 445.

Collins, N. 2015. "*Semiconductor: Making Music after the Transistor*". *Musical Listening in the Age of Technological Reproduction*. 1.

Cox, C. 2018 *Sonic Flux: Sound, Art, and Metaphysics*. 24.

Fuller, M. 2013. *Beyond the Blip: Essays on the Culture of Software.* 13.

Katz, M. 2012. *Groove Music: The Art and Culture of the Hip Hop DJ.*

Kittler, F. 1999. *Gramophone, Film, Typewriter*

Lind M (ed.), reviewed by Burns A and Lundh J. 2012. *Performing the Curatorial: Within and Beyond Art*. 162.

Mbembe, A. 2002. "*The Power of the Archive and its Limits*". In: Hamilton C., Harris V., Taylor J.,

Pickover M., Reid G., Saleh R. (eds) *Refiguring the Archive*. 19

Parker, E. 2018. Personal Interview with Matthew Wright

Patteson, T. 2016. "*Sonic Handwriting: Media Instruments and Musical Inscription." Instruments for New Music: Sound, Technology, and Modernism*. 88.

Schäfer, Thomas et al. 2013. "*Changes in the Representation of Space and Time while Listening to Music*." Frontiers in Psychology vol. 4. 508.

Schwartz, J.M., Cook, T. 2002. Archives, records, and power: The making of modern memory. Archival Science 2, 1–19

Toop, D. 2004. Haunted Weather. 164.

Veal, M. 2007. "*Starship Africa: The Acoustics of Diaspora and of the Postcolony* in Dub". *Soundscapes and Shattered Songs in Jamaican Reggae*. 198.

Walmsley, J. and Marsh, L. (ed.) 2008. "Methodological situatedness; or, DEEDS worth doing and pursuing." *Cognitive Systems Research* 9. 150.

Wrightson, K. 2002. "An Introduction to Acoustic Ecology." Soundscape: The Journal of Acoustic Ecology. 10-14.