
Material and Medium: An examination of sound recycling in Oval's *94 diskont*

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Reproduction (playback) is responsible for the presentation of the full spectrum of sound character captured during the recording process. The control of this and the faithfulness to an original sound has informed modern sound aesthetics. Current modes of reproduction, such as streaming, see the listener more interested in an approximate presentation of sound, rather than a broad and more psychoacoustically pleasing one. In the sonic arts, the practice of sound recycling and its associated methodologies, reproduction is re-contextualised, involving material that is borrowed, reworked and often disconnected from its source. Such issues are considered in this article through the examination of sound recycling in *94 diskont* (1995), an album produced by the German act Oval. By studying the use of material and medium in the work, an attempt is made to discuss approaches to sound recycling through conceptual frameworks proposed by Bregman, Deleuze, Guattari and Smalley to provide a forum towards the interpretation of sound recycling in wider sonic arts practices.

1. INTRODUCTION

1.1. Sound recycling: listening and schema

In an attempt to define sound recycling (the repurposing of sound/sonic material) as a practice, factors such as listening, the schema and Auditory Scene Analysis (ASA)¹ are examined. As an in-depth examination of ASA is beyond the scope of this article, its brief overview is presented here and proposes to explore how sound recycling is perceived and experienced. We can view sound and its relationship with identity as a kind of experience or a way of dealing with a particular experience. This experience is a perceptual one and identity, like music, is a matter of both ethics and aesthetics (Frith 1996). Sound recording alters the above and its transmission represents perhaps the most radical of all sensory reorganisations (Peters 1999: 160–1). Ultimately, sound recording brought about new forms of communication, commercial exploitation and, more importantly, new forms of listening publics. Long (1989) claims that listening is characterised as a set of activities that involves an

individual's capacity to apprehend, recognise, discriminate, or even ignore certain information, while Rost (2001) suggests it is equal to experiencing contextual effects; that is, listening as a neurological event (experiencing) overlays a cognitive event, creating a change in a representation.

Linguists, cognitive psychologists and psycholinguists have used the concept of the schema to help better understand both the organisation and the interaction processes and Bregman (1990) suggests that schema-based auditory organisation draws on information from both complex mixtures of sound and pre-activated knowledge. Brewer and Treyens (1981) view the ability to discriminate as a key factor within listening as human cognition is related to the schema and is affected by knowledge stored in one's mind. When something deviates sufficiently from such processes, it receives our attention; it is remembered, and memory is often associated with the relevant schema in memory (Snyder 2001: 100). Additionally, Agus, Thorpe and Pressnitzer (2010) suggests that memories (or schemas, in Bregman's terms) are sure to form through repeated exposure.

1.2. Sound recycling: auditory perception and organisation

ASA is a proposed model for the basis of auditory perception and refers to the ability human listeners have to parse complex acoustic scenes into coherent objects. Processes within this model include stream segmentation, integration and segregation. We can briefly define the ASA model as follows:

- Stream segmentation refers to how sound components can be heard as individual components (which leads to counterpoint).
- Stream integration defines how sound components (such as pitch, rhythm and timbre) are grouped together to form different voices of a musical piece.
- Stream segregation refers to the phenomenon in which a sequence of sounds is perceived as more than one auditory stream, each arising from a distinct acoustic source in the environment.

¹Albert Bregman's Auditory Scene Analysis is a proposed model for the basis of auditory perception and involves the process by which the human auditory system organises sound into perceptually meaningful elements.

ASA proposes that the perceptual segregation of sound components into streams can depend on differences in pitch, amplitude, rhythm and location (Bregman 1990: 12). Through this process, sounds tend to group sequentially with others that are close to them in frequency and this effect lends itself to the proximity principle: tones that appear close in pitch are more likely to be grouped together (ibid.: 23). In the ASA model, Bregman comments that the simultaneous presentation of sounds and the alteration of intensity, timbre and rhythm can directly influence musical material (ibid.: 36). It is suggested here that sound recycling involves a form of 'hyper-segregating', as the perceptual organisation of sound material are in flux. Sound's tangible nature has the power to bind perceptual organisations together or as LaBelle suggests, sound reconfigures our bodies.

He comments:

Sound is a material event that activates the unsteady arena existing between bodies. As a force that moves across distances, charting out any number of erratic trajectories, between here and there, sound charges the space that surrounds us with an animating presence – a presencing. (LaBelle 2017: 249)

1.3. Discussion

ASA uncovers the most likely physical causes that account for the waveform collected at the ears. The analysis of the perceptual organisation of sound is complex, however, for the purpose of this article, I would argue that sound recycling challenges the listening process and reconfigures the ASA model, in particular stream segregation, via the re-contextualisation of sonic materials. An examination of such challenges allows us to investigate sound recycling aesthetics and, ultimately, its intention as a creative activity.

2. ECONOMY OF SELECTION

2.1. Failure

The tools for making electronic music are not impartial; true sound mediums are an interface to ghosts of technoscientific projects of the past (Rogers 2012). Historically, these tools have been exploited and the failure of these tools has become a means, for many, for the exploration of sound. Cascone (2000) observes that one of technology's roles is to hide its failures. He points out:

Failure has become an important prominent aesthetic in many of the arts in the late 20th century, reminding us that our control of technology is an illusion, and revealing digital tools to be only as perfect, precise and efficient as the humans who build them. (Cascone 2000: 13)

Sonic artists exploiting 'failures' help reveal technology's weaknesses by intentionally corrupting information embodied on formats, both physical and digital, allowing for the systematic eroding of both essential data and the computational process. In *Noise*, Attali suggested that every code of music is rooted in the ideologies and technologies of its age, and at the same time produces them (Attali 1985: 51). He comments:

Economically, the new technology creates a supply of a product, but it must also create a demand for an object that outlasts its use. (ibid.: 100)

Here, the economy of selection through technological failure is given significance. Attali saw that music, as a cultural form, was intimately tied up in the mode of production in any given society and, indeed, its cultural stages in its history and it is suggested here that it is up to the sonic arts practitioner to question the validity of a technology and its contribution.

3. FRAMEWORKS

3.1. Rhizome and assemblage

In order to examine possible methodologies within sound recycling, a number of conceptual frameworks are examined. First, the rhizome (a network of stems² that are laterally connected) developed by Deleuze and Guattari (1987) is considered. Deleuze and Guattari suggested that the rhizome could be used to describe theory and research that has multiple entry points for data representation and its interpretation. It has been offered as an explanatory framework for network (both human and machine) theory and hypertext. They suggest that the rhizome does not have a beginning, an end, or an exact centre, rather:

The rhizome is reducible neither to the one nor the multiple . . . it is comprised not of units but of dimensions, or rather directions in motion. (Deleuze and Guattari 1987: 6)

Second, assemblage – where items are gathered together into a single context – is considered. Deleuze and Guattari viewed these systems of assemblages as drawing upon any number of elements. They questioned:

What is an assemblage? It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns – different natures. Thus, the assemblage's only unity is that of a co-functioning: it is a symbiosis, 'sympathy'. It is never filiations that are important, but alliances, alloys; these are not successions, lines of

²Deleuze and Guattari use the term 'stems' to describe the (hierarchical, tree-like) conception of knowledge.

descent, but contagions, epidemics, the wind. (Deleuze and Parnet 2007: 69)

This sense of co-functioning ascribes it to the idea of that the environment of an assemblage is itself an assemblage (De Landa 2016: 7). For Deleuze and Guattari, assemblages are 'produced in the strata, but operate in zones where milieus become decoded' (Deleuze and Guattari 1987: 503). Additionally, they proposed that assemblages could arise in the 'selection of elements from the milieus (the surroundings, the context, the mediums in which the assemblage work) and bring them together in a particular way' (Stivale 2005: 79).

Plateaus 10 and 11 of *A Thousand Plateaus* (Deleuze and Guattari 1987) observe and develop notions that can be linked to sound recycling as the 'creative, active operation that consists in derterritorializing the refrain' (ibid.: 300).

3.2. Discussion

The conceptual frameworks presented by Deleuze and Guattari attempt to contextualise sound recycling and aesthetics. In both rhizome and assemblage, 'each organism traces a development melody as it grows, matures and eventually dies, and the regular rhythms of its activities functions as so many motifs in counterpoint with the motifs, produced by surrounding organisms and inorganic forces' (Buchanan and Swiboda 2004: 95). Both concepts are heterogeneous as they can be entered from many different points, all of which connect to each other. With this in mind, it is suggested here that sound recycling can be defined solely as a circulation of states (Deleuze and Guattari 1987: 503).

I have freely elaborated on notions of the rhizome and assemblage as they represent a useful attempt for discussing the proposed structural frameworks within sound recycling. Assemblage presents a significant consideration with all instances of sound recycling, potentially acting as a conduit that brings borrowed materials together in a new form.

4. OVAL'S 94 DISKONT

4.1. Context

Oval's *94 diskont* (1995) is a work that should be viewed in conjunction with *Systemisch* (1994), the group's previous record where their initial experiments with sound recycling began. It revolves around the 24-minute track 'Do While' that was originally composed as part of an immersive installation piece entitled *Wohnton*. Contextually, the album saw Oval redefine their deconstructionist approaches to sound, and in such, the production of *94 diskont* questioned

both the music and the musicality of contemporary digital music media, and more importantly, its associated mediums. Released at the cusp of the Internet era, *94 diskont* can be viewed as an aesthetic rather than a rigidly theoretical effort, offering a more diverse, yet highly accessible scope of miniature sound clusters, embedded into arrangements far more heterogeneous and conflicting than any of Oval's previous recordings.

4.2. Approaches

A number of approaches are proposed for the discussion and analysis of Oval's *94 diskont*. One such approach exists in Kirschenbaum (2007) and that of 'forensic materiality' and 'formal materiality'. 'Forensic materiality' refers to the fact that the entire process of recording, distributing, processing and transmitting data is dependent on physical carrier media, such as the hard drive: 'computer forensics depends upon the behaviors and physical properties of various computational storage media' (Kirschenbaum 2007: 45). 'Formal materiality', on the other hand, is used to refer to the symbolic level of conceptual objects of the human/machine interface, commenting that:

Formal materiality thus follows as the name I give to the imposition of multiple relational computational states on a data set or digital object. Phenomenologically, the relationship between these states tends to manifest itself in terms of layers or other relative measures, though in fact each state is arbitrary and self-consistent/self-contained. (Ibid.: 12)

Kirschenbaum suggests that materiality in technology is never lost (Kirschenbaum 2007: 323) and that such approaches encourage us to perceive new media in terms of specific versions, platforms, systems and devices. He comments:

Product and process, artifact and event, forensic and formal, awareness of the mechanism modulates inscription and transmission through the singularity of a digital present. (Ibid.: 25)

Kirschenbaum highlights the role of medium within digital culture and helps define the materiality of media, and in Oval's case, the use of the CD allows the listener awareness of the materiality of media. Maes and Lerman (2017) consider how the implementation of technology to record and reproduce sound makes it possible to separate sound from sound source and to create new constructions of artistic craft. They provide classifications between the conditions of the generation a work as follows:

1. The work makes use of commercially available techniques and technologies.

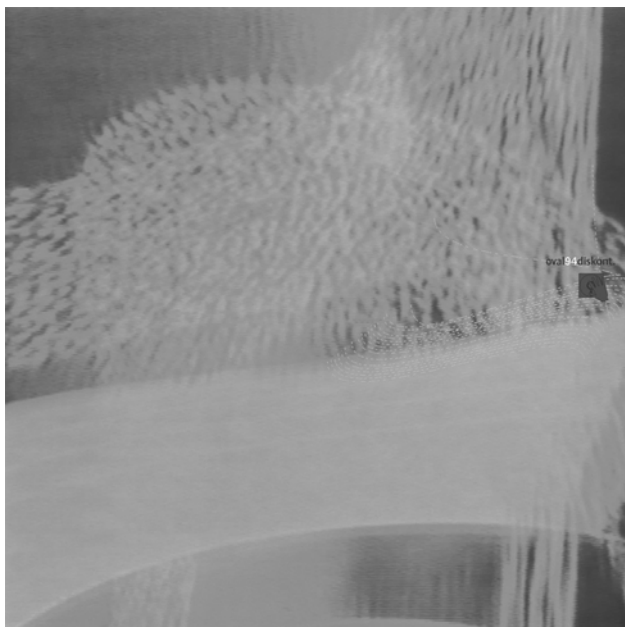


Figure 1. Oval's *94 diskont*.

2. The work makes use of adapted commercially available technologies and techniques.
3. The work makes use of homemade hardware and/or software.

The key work here, for the approaches used by Oval in *94 diskont*, most certainly falls under the adaptation of commercially available technologies. In many sonic arts practices, a work can begin from an existing technology and through its journey it can become alienated from its original use (Bosseur 1996: 33) and in a similar fashion to Kirschenbaum, Maes and Leman distinguish the effects of technology, inherent to *94 diskont*'s structure.

4.3. *94 diskont*: sound recycling, material and medium

Szepanski, head of Mille Plateaux records, who released the album in 1995, describes Oval's approach to sound material. He comments:

There's a synthesis of heterogeneous sounds and material through a kind of composition that holds the sound elements together without them losing their heterogeneity. (Reynolds 1996: 29)

Szepanski was well versed in poststructuralist thought and the label's Deleuze–Guattarian name referenced that philosophy. Accordingly, the music Plateaux were releasing at the time was referred to as 'deconstruction electronica' (Church 2017: 316). Church continues:

Rather than hiding from the penetrating potential of modern noise, Oval seeks it out and harnesses it. Glitch, analysed here as a text, is also a hermeneutic that explores the perils and promises of the digital age. (Ibid.: 320)

This sense of 'promise' is chronicled in Oval's use and approaches to sound recycling. Oval repurposes the unlistenable (that of a skipping CD) and transforms it into something harmonious through the layering of multiple rhythmical planes of sound, helping transform the dysfunctional into the musical. In many ways, *94 diskont* (Figure 1) asks the listener to reassess what is right or wrong in a recording or musical work or to explore as Barrett (2017) considers, either *poetic* (productive or formative) or *esthetic* (receptive or perceptive constructs).

The album's opening track '*Do While*' has been selected here for discussion and analysis as the piece masterfully employs a hypnotic and stuttering collection of borrowed sounds.³ '*Do While*' deals primarily with the reconfiguration and repurposing of sound material and this process can lead the listener to the question of how much or how little the piece is changing over time. Through this, the notions of rhizome and assemblage come into play, referencing back to the heterogeneous nature of the two and allows '*Do While*' to be reconstructed (sonically) from many different points while listening. Emmerson elaborates on this further, commenting:

The reconstructed sound image is manipulated into unexpected juxtapositions not usually encountered in the real world, creating surreal dream worlds or dialectical oppositions. (Emmerson 1986: 24)

As an ontological process, '*Do While*' creates collages of opposition, of multi-timbral images and rhythms. Questions of materiality within the compositional process emerge here and as Risset (2005) suggests, composition should not rely on juxtaposition, it should superimpose different processes into a sort of polyphony. Are these interactions between physical properties of the medium or the work's artistic strategies? For this reason, materiality cannot be specified in advance, as if it pre-existed the specificity of the work (Hayles 2002: 32). Hayles expands on this further, stating:

As an emergent property, materiality depends on how the work mobilizes its resources as a physical artifact as well as the user's interactions with the work and the interpretive strategies she develops—strategies that include physical manipulations as well as conceptual frameworks. In the broadest sense, materiality emerges from the dynamic interplay between the richness of a

³The source material used in '*Do While*' is uncredited on the album's liner notes.

physically robust world and human intelligence as it crafts this physicality to create meaning. (*Ibid.*: 32–3)

One could say this definition is too broad. However, Hayles highlights the meaning and conditions of materiality and as Bourdieu (1987) observes, meaning can become either obscured or ambiguous. He comments:

In reality we have simply proved our cultural competence with the particular codes of work. If we don't catch the reference, we conclude either that the text is not sampling anything else [or] that the samples are obscure since we didn't recognize them. (Bourdieu 1987: 22)

Bourdieu helps highlight the relationship between the historical and the cultural elements and the codes we tend to associate with it. Every musical work is systemic as it forms an ensemble of symbols and/or acoustic phenomena that is rendered coherent by an organising principle (Bossis 2006: 102).

Here, Bossis discusses the mechanisms of a piece and how it can help place a piece in its musical environment and promote the identification of trends, genealogies and complementary influences (*ibid.*: 12).

In an attempt to understand and frame *94 diskont* as a key work within the practice of sound recycling, a number of contributions have been considered to determine the nature of the album and to understand its use of medium and material within the compositional process.

4.4. Modes of Listening and Production

Spectromorphology is concerned with perceiving and thinking in terms of spectral shapes in space – their behavior, their motion, their growth processes, and their relative functions in a musical context (Smalley 1997: 19). Within this, Smalley proposes what he terms 'technological listening', a process in which musical meaning is lost if the listener becomes acutely aware of the technology or techniques involved in generating the piece and that technological listening should be transparent so as to not interfere with creative and perceptual processes (*ibid.*: 3). Additionally, Smalley highlights the difficulty for composers to adapt a purist standpoint, as there are many technological factors involved in listening. He comments:

Many methods and devices easily impose their own spectromorphological character and clichés on the music. (Smalley 2001: 4)

Smalley helps clarify and decode perceptions of music, in particular, electroacoustic music, considering the perceived sonic footprint of a sound spectrum as it manifests in time. The associated production mechanisms of *94 diskont* highlight Smalley's observation of how a medium can impose

and influence meanings to sound recycling aesthetics and its associated relationship with technology. Through this and numerous other contributions, Smalley has developed a much-needed language that has facilitated many discussions about sound-shapes, sensations and evocations associated with experiences of acousmatic sound (Blackburn 2011: 13).

One final observation considers Schaeffer's classification of a 'sound object', in that separation between the sound and object is separate from its modes of production and the media to which it is fixed (Schaeffer 2012: 76). It should be observed that the use of pre-existing recordings to help generate a new work is by no means a unique process. Many forms of art (both visual and musical) have repurposed material for artistic intent. One seminal example of this includes Ussachevsky's *Wireless Fantasy* (1960), in which a recorded segment of Wagner's *Parsifal* is filtered and combined with sounds of Morse code and shortwave radio. *Wireless Fantasy* represents an early example of sound collage and demonstrates how its modes of production set it against other early works of purely tape music. Ussachevsky discusses the machine's role in the humanisation of sound material. He writes:

I have sometimes experienced a state of dynamic tension rising in me out of what would seem to be a status of mutual responsiveness between the machine and myself. Such a state could require hours of concentrated preparatory exploration, coaxing of machines, connecting, so to say, one's own sensibilities, one's own nerve endings to the totality of the tuned-up controls.

And, suddenly, a window would open into a vast field of possibilities; the time limits would vanish, and the machines would seem to become humanized components of the interactive network now consisting of oneself and the machine, still obedient but full of suggestions to the master controls of the imagination. (Ussachevsky 1977: 41)

Ussachevsky explores and treats the recorded excerpt of Wagner's *Parsifal*, just as valid as other musical motifs used in the piece with the 'recycled' material here being a 2½ minute excerpt, unedited. 'Unedited' here relates to the non-alteration of time, but in terms of its harmonic alteration, the timbre of the passage is dramatically filtered to create numerous timbral shifts (Beaudoin 2007: 145). The distinction between *Wireless Fantasy* and *94 diskont* is that the recorded segments utilised by Oval are unrecognisable, via randomisation, producing a newly sequenced arrangement of sound formalisations.

5. FINAL REMARKS

The repurposing of sound material within the sonic arts has many guises – plundering, borrowing,

sampling, sound recycling to name a few – and as such, this article has attempted to discuss perspectives towards both its definition and its analysis. The schema and ASA provided a launching point towards the discussion of sound recycling and its perceptual effects. Bergman proposed that sounds will either be heard as ‘integrated’ (heard as a whole – much like harmony in music), or ‘segregated’ into individual components (which leads to counterpoint).

The frameworks considered Deleuze and Guattari’s frameworks of ‘rhizome’ and ‘assemblage’ to conceptualise sound recycling as a process that generates new forms of sound material via borrowed ones. Kirschenbaum (2007) provided an examination of the mechanisms of medium in its permanently shifting form while Hayles (2002) made light of strategies that include physical manipulations of mediums. Compositionally, Smalley’s (2001) ‘technological listening’ added a crucial consideration, the use of the CD by Oval, a medium now perhaps past its lifespan for many.

Virilio (2003) highlights the loss of physically within the digitalism of most sonic art practices and comments that:

The demise of the relative and analogue character of photographic shots and sound samples in favour of the absolute, digital character of the computer, following the computer, following the synthesizer, is thus also the loss of the poetics of the ephemeral. For one brief moment Impressionism – in painting and in music – was able to retrieve the flavour if the ephemeral before the nihilism of contemporary technology wiped it out once and for all. (Virilio 2003: 48)

Our relationship with technology conditions us, or as Heidegger wrote, ‘the will to mastery becomes all the more urgent the more technology threatens to slip from human control’ (Heidegger 1977: 2). The removal of technologies’ intended functionality and the creative abuse of it offer the opportunity to exploit a sounding object by any means necessary in order to access its potential sonic palette (Keep 2006: 116).

One cannot help but wonder about the possibilities (or lack thereof) of future formats that may appear and that will again provide the sonic arts practitioner with the opportunity to exploit technology on such a physical level or, indeed, if the listener can again be so closely aware of sound and its production mechanisms.

A universal and accepted classification of sound recycling as a sonic arts practice may not be possible due the proliferation of dialects and idioms within the genre. In attempting to do so, it is hoped that this article presented suitable (and adaptable) approaches and frameworks for its study through the examination of material and medium.

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