



Acetate - Impermanence and Destruction Within Sound Art

Jimmy Eadie^(✉)

Trinity College Dublin, Dublin, Ireland
eadiejj@tcd.ie

Abstract. This paper will discuss two installation pieces created for acetate vinyl and multiple turntables. The two works *Wow&Flutter* and *Collision* should be considered as spatially immersive, generative, and interactive sound sculptured objects that investigate degrading surface material and remediation as the basis for a structural composition. The turntable has been regarded as a legacy technology but has recently seen a resurgence even among emerging technologies such as 'XR' 'Network Art' and 'Live Coding'. This paper will discuss how the turntable is itself a dialogic key between mediation and materiality of sound. Its tactile and kinaesthetic nature invite interactivity in a very unique and singular manner. Firstly, I will address correlational aspects by developing the conceptual and aesthetic context in an effort to delineate and explain the term *Sound Art* before addressing the affordances of the creative use of the turntable. I will then explore how prominent artists conflated this medium's initial purpose and telos before going on to discuss the concept of *Repetition as Aesthetic*. This will be followed by an in-depth commentary of the use of acetate material in terms of investigating real-time recursive disintegration of analogue sound recording on this soft and malleable material. Intermediality and reappropriation of sonic material will also be discussed in relation to the compositional approach with a particular emphasis on *Plunderphonics*.

Keyword: Turntable art · Plunderphonics · Acetate

1 Sound Art

Sound art as a term seems to be contentious among academics and practitioners alike. Incorrectly applied, the term is nebulous and can lead to vagueness when discussing sonic arts in general. It is broad, encompassing a varied range of art and artistic practices while at times ignoring their differences. Its use can obscure associations and adherence to contrasting creative disciplines and categories. Notwithstanding these points, the term sound art can be useful in registering the fact that there does indeed exist a practice that falls between many artistic and conceptual disciplines. In my estimation, it has helped to expand the field of music theory, practice, and discourse, as well as define the boundaries between music and the visual arts. Consequently, sound art should not be considered a genre, but rather a conceptual definition that engenders a practice born out of a multitude

of past histories. Several areas have shaped sound art, the main influences being fine art, music, theatre, and audio technology developments. In distinguishing sound art from music, I do not take a purist stance and consider them to be mutually exclusive. However, I do believe a viable definition of sound art can exist which avoids too much confusing overlap with music. Primarily, I am looking at these fields more pluralistically, suggesting that sound art's breadth has increased somewhat to that of music and, in particular, to what is termed experimental music. Before setting aside the arguments over the terminology, I need to give some context about sound art's problematic title. I will include some current definitions from notable scholars and practitioners on the subject. These definitions are important, in that they can help in critically positioning a work within the larger field of audio culture.

Musicologist Leigh Landy claims that 'There is no single consistently used definition for sound art. Originating in the fine arts, the term is associated with sound installations, sound sculptures, public sonic artefacts and site-specific sonic art events and could further be subdivided into more specific categories' [39]. Author Seth Kim-Cohen believes that 'the language of sonic practice distinct from music is only now emerging' [35]. In his anthology of modern music, *Audio Culture Readings in Modern Music*, Christoph Cox observes that 'sound art has become a prominent field of artistic practice, presented at major museums and galleries all across the globe' [9]. Artist and author David Toop describes sound art as 'sound combined with visual art practices' [66]. Toop curated the sound art exhibition *Sonic Boom* [5] at the Haywood Gallery, London. This was considered a vital landmark exhibition for sound art practice throughout the world. But, perhaps the most significant and insightful definition, and one I consider directly applicable to my practice, comes from Alan Licht, who differentiates sound art from music principally in terms of time and duration. Licht advocates the view that:

A universal definition and definitive history of sound art may not be likely, [...] but ultimately it is better to honour sound pieces created in a non-time-based, non-programmatic way as being sound art as opposed to music than to simply shoehorn any sound work into the genre of experimental music, or to practise the lazy revisionism of blanketing any experimental sound composition, performance or recording under the rubric of sound art.

As can be seen, a definition, critique, and discussion of sound art has many difficulties. However, as Licht suggests, sound work created in a non-time and non-programmatic way should be defined as sound art, as opposed to the majority of music. Thus, we can at least begin to describe the concept of sound art, and how to apply it to a particular work. For me, the terms intermediality, art hybridity, installation, and sound art can often be interchangeable as there is overlap between them. I think it is this convergence of meaning within the stated definitions that causes much of the controversy, in terms of artists and theorists attempting to pin down exactly which work should sit where. For instance, if we take Licht's definition of sound art as 'non-time-based and non-programmatic' as a starting point and combine it with David Toop's definition of 'sound with visual art', we get closer to understanding this slippery realm of definitions. To further understand this taxonomy, artist and scholar Laura Mae created a set of useful criteria to define the 'specific characteristics and attributes' of sound art more easily.

The criteria are as follows: concept, perception, space, site-specificness, open-form, interaction, production of sound, narrativity, endurance, and visual component [41].

Professor of Media Studies Kate Lacey observes that, sound artists attempt ‘to make listeners self-reflexively aware of themselves as listeners, within a particular setting and time’ [38]. Don Ihde states, the ‘enchantment of sound can seduce’ and lead to a temporary sense of ‘dissolution’ of self-presence; essentially it can take you ‘out of yourself’ [26]. When discussing sound art, most discourse specifies only what it is not: it is not music, and it is not visual art. However, as Seth Cluett [8] observes, the visual element of sound art, although at times less apparent, can actually foreground the concept of sound by alluding to or highlighting the absence of sound. Evidence of this conceptual approach to sound art can be seen in the work of Christian Marclay [42], particularly his pieces *Cube* (1989), *Tape Fall* (1990) and *Boneyard* (1990). Casey O’Callaghan [48] emphasizes that hearing, compared to seeing, is considered as a secondary perceptual quality in Western philosophy, adding to the tensions between the ocular and the aural, and historically giving superiority to the visual aspect. Exploring this concept further Peter Szendy believes that ‘unlike visual perception, which enables a clear separation of subject and object, sound resonates in and through the listening body’ [62]. David Toop’s enlightened discrimination between the visual and sonic experience demonstrates these points further: ‘Seeing is now-now-now-now-now-now-now-now-n-n-n..., whereas hearing is then-and-now-and-then, over there at the source of the sound and then here, within the body, already gone but still dispersing into ambience’ [65]. Despite these perceptual differences, and the fact that sound art is simultaneously rooted within two different discourses, that of music and visual arts, the visual component plays a significant role in many renowned works.

2 Influential Artists on Sound Art

Marcel Duchamp is a significant figure in the history of modern art who deserves to be mentioned for his conceptual use of sound and vision, which ultimately contributed to the development of sound art. It was through his ready-mades and experiments within visual art, sculpture, and music that we first see the creation of a sound-work presented within the emerging conceptual arts. I propose that the first conceptual piece of art that could be considered as a forerunner to sound art writ large is his ready-made entitled *With Hidden Noise (A Bruit Secret)* [15]. The work was designed for interaction, audition, and vision. *With Hidden Noise* could be conceptually read as an infinite line that doubles back on itself, permanently fixed in this position: a solidified loop. However, the work is not activated or completed until the object is shaken to make a sound, the origin of which is hidden from view. The work creates an interesting dialogue between conceptual, visual, and auditory experience, questioning perception and meaning through chance operation. Thus, it satisfies what all sound art should achieve in my opinion. Duchamp says of this piece:

Before I finished it Arensberg put something inside the ball of twine, and never told me what it was, and I didn’t want to know. It was a sort of secret between us, and it makes noise, so we called this a Ready-made with a hidden noise. Listen to it. I don’t know; I will never know whether it is a diamond or a coin [16].

By creating such conceptual works, Duchamp was disrupting centuries of established thinking, that the artist must be a skilled painter or sculptor. He conceived that the skill and originality could be in the *concept*, rather than the execution. Alluding to Duchamp's importance within sound art, and drawing attention to his concept of a 'non retinal art', Seth Kim-Cohen argues that, sound art must also now become 'non-cochlear' if it is to develop. [34]. Artist Joseph Kosuth, commenting on artistic divisions and modalities, suggests that 'all art [after Duchamp] is conceptual [in nature] because art only exists conceptually' [37]. Fifty years after Duchamp, as if to echo Kosuth's claim, artist Robert Morris created *Box with the Sound of Its Own Making* [47], an essential work of American minimalist art. Kim-Cohen contends that '[Box] is both the sound of a sculpture and a sculpture of sound. It is a very early example of a sound sculpture; of a work existing simultaneously, equally, as sculpture and as a sound art work' [35].

As well as Duchamp, seminal artists John Cage, Pierre Schaeffer, and R. Murray Schafer were each pivotal in developing concepts of sound and listening beyond the domain of music and, as such, have had a great impact on the definition of sound art. These important practitioners have been written about at length [7, 12, 49, 58, 59], so I will not go into great historical detail here. Importantly, all share the characteristic of not differentiating between 'musical sounds' and 'extra-musical sounds' which would conventionally be considered 'noise' or environmental ambient sound. This concept did have its genesis with Luigi Russolo at the turn of the 20th century [7]. However, there are pertinent differences between how Cage, Schaeffer and Schafer determine their theories.

In attempting to define sound within acousmatic music, Pierre Schaeffer, who was heavily influenced by Edmund Husserl's phenomenological principles [23, 31, 33, 54] suggested removing the sound from its original context. Through his concepts of the sonic object, reduced listening and *idée fixe*, Schaeffer suggested we should rely purely on the acoustic qualities of sound to gain a deeper understanding. He was concerned with the physical material of sound and how this could acquire the plasticity of compositional material. To demonstrate this phenomenon he famously removed the attack of the recording of a bell and he subsequently found it resembled the sound of an oboe [32]. Expanding the field of discussion pertinent to sound art further, R. M. Schafer introduced the concept of the soundscape and acoustic ecology. Essentially Schafer was concerned with how we experience an acoustic environment, and subsequently how to study and analyse these external sound fields, which he termed sonography [57].

Historically, one of the most influential practitioners concerning not only music but art in general is John Cage. Cage's own rhetorical character is so pervasive and entangled within his work, that objective reception and discussion of his output is quite a difficult task. But it was his theories of music composition and particularly the concept of silence that have had the greatest impact on the current debate surrounding sound art. As Cage remarked, 'Silence is all of the sound we don't intend. There is no such thing as absolute silence. Therefore silence may very well include sounds, and more and more in the twentieth century does' [36]. Essentially for silence to function as an artistic act there must be a coherent structure, a framing as it were. This frame is the filter through which we perceive the work – sound and silence. As Kyle Gann suggests, in keeping with his Zen tendency to dissolve dualities, Cage thought of 'sound and silence as merely aspects of the same continuum' [24]. Conceptually Cage's work abandoned

the compositional categories of work-form, material-content, thereby questioning the necessity of an artistic work at all for the origin or creation of aesthetic experience. As Douglas Kahn comments, Cage codified silence into a ‘musical’ event that could be experienced anywhere and at any time, essentially arguing that all sound could be music [30].

Cage’s theories represent an aesthetic ideal of listening to the sound source which does not impose an intention or will on the listener. Instead, it promotes an openness towards experiencing events simply as they are. One of Cage’s greatest contributions to art was highlighting the experience of listening in the expanded auditive field. The efforts Cage made to eliminate his personal will from his work enabled him to construct aesthetic listening experiences that were free from the artefacts of traditional compositional structure, such as form, melody, harmony, etc. The absence of these structural principals goes some way to support Licht’s contemporary definition of sound art, as quoted above, and in turn, help define my own practice within the wider sphere. I agree sound art has a historical attachment to experimental music. However, whereas most music could be said to be made of sound, some sound art actually omits sound completely, emphasising only silence, or referring at least to the absence of sound, through a visual medium. In summary, I believe sound art is developing a specific vernacular and approach to audible art which can be of benefit to scholars, curators and the artists themselves.

3 Impermanence and Destruction

Phonographs, gramophones, and turntables have been used throughout history not merely as a mediating device for the playback of music, but also as electronic instruments or as art objects in themselves. As such, I believe they belong in this instance within the category of sound art. The following artists and the mentioned pieces have had a particular influence on my own works involving turntables. The first known works using this medium are by Paul Hindemith and Ernst Toch in 1930, followed by John Cage’s landmark work *Imaginary Landscapes No. 1*.

[6]. The expressive qualities and interactive nature of the turntable also had a great influence on the creation of *musique concrète* and were initially the primary mode of production for Pierre Schaeffer and Pierre Henry in their seminal work *Symphonie pour un Homme Seul* [56]. Daphne Oram, a pioneer of *musique concrète* in Britain, created the highly original turntable work *Still Point* [22] but this remained unheard for seventy years, until a contemporary turntablist, Shiva Feshareki, performed it with the London Contemporary Orchestra in 2016. Milan Knížák who was part of the Fluxus movement in eastern Europe, created loud, aggressive works during the sixties, by purposely destroying vinyl and playing the records back with homemade amplifiers. Nam June Paik also used the turntable, in his work *Random Access* (1963). Bauhaus artist László Moholy-Nagy advocated using vinyl as a creative, rather than reproductive tool. Christian Marclay is also an excellent example of an artist who has moved seamlessly between the disciplines of music, installation and sound art. Russell Fergusson suggests that the majority of Marclay’s work is preoccupied with the concept of sound, yet the ‘overwhelming majority of his output makes no sound’ [21]. His work with the medium

of vinyl and record player, both as a performative instrument and as a sonic object, has direct bearing and influence on my own vinyl pieces, *Wow&Flutter* and *Collision*. With both these works I am interested in recognising the fleeting nature of the acetate medium, which is a delicate plastic that can only hold the sonic information for so long before it is eventually destroyed by the needle with which it interacts. This impermanence in relative contrast to digital technology was at the centre of both of these works. For me, the record player is simultaneously a sound-emitting object, a musical instrument, and a sound art object. Philip Jeck is a composer and multimedia artist primarily known for utilising turntables and old vinyl records, along with electronic processing devices within performance and installation settings. His *Vinyl Requiem* [28] sound installation in London was a remarkable large-scale installation used 180 record players creating a wall of surging an ever-changing sound. To conclude this section, my aim here has been to articulate that sound art can promote and highlight a greater sense of auditory perspective within the arts. Both music and the visual arts have influenced sound art, which, in my opinion, will remain placed between these two disciplines, though hopefully in a less contested fashion. This section is not an attempt to establish an absolute definition of sound art but should instead be read as one artist's account of a complex, sometimes contradictory area of practice. How these theories and terms apply to my work is vital in understanding my particular approach to practice.

4 Repetition as Aesthetic

Within this section, I will focus on my use of repetition, particularly in creating the installation for turntables, and more specifically, that of immediate 'phrase' repetition and the concept of 'looping' as an aesthetic device. A discussion of the related phenomenon such as mere-exposure effect from social psychology [68] and the critical theories of Theodor Adorno [2] concerning the effect of general repetition within popular music, and its subsequent effect on a societal level, is beyond the scope of this paper. Notwithstanding these arguments of high and low culture [1], repetition has been used in music for centuries as a fundamental composition device. Chris Cutler notes repetition in music is a function of memory; it is a 'creative reconstructive' process delivered through the use of the loop as a 're-iteration' of sound [29]. Many artists have used repetition in an electronic form called the 'stutter effect' producers such as Oval (*94 Diskont*, 1995); Pan Sonic (*Endless*, 1998); Tim Hecker (*Haunt Me, Haunt Me Do It Again*, 2001); Akufen (*My Way*, 2001) and Ryoji Ikeda (*Dataplex*, 2005). Also, minimalist works from La Monte Young, Terry Riley, and the slow generative variations of Steve Reich and Brian Eno have all used repetition extensively. Notably, Reich's concept of process music [53] and Eno's generative principles [63]. Alvin Lucier and particularly his piece *I am sitting in a room* [40], is a great example of the use of repetition within an installation work. I consider it to be the most elegant and simplest piece of minimalist process music that demonstrates repetition, revealing the natural acoustic phenomena of 'resonance' through audio feedback. As Edward Strickland notes, 'in its repetition, *I am sitting in a room* ranks with the finest achievements of minimal tape music' [60].

Repetition is a fundamental characteristic of all my work, although I do not create static loops that repeat linearly without change. Rather, I incorporate repetition of material as a type of evolving re-performance, or as Anne Danielson [13] terms it 'a changing

same'. This is demonstrated in the mechanical looping of my acetate turntable works *Wow&Flutter* and *Collision*. Here the printed repetitions on each plate are independent of each other, but when experienced as a whole, they become inseparable as the work evolves through slow repeated combinatorial cycles. Sonic phenomena such as echo, delay and reverberation are all essentially time-based repeats of an original sound event, which are perceived as a type of impressionistic memory by the listener. When the transmission is of spoken word and processed in this manner, it can change the prevalent meaning, becoming almost musical, in a phenomenon known as 'semantic satiation' [27]. This simple act of repetition or 'speech-to-song' can make the most mundane spoken phrase become almost 'musicalised', as noted by psychologist Diana Deutsch [14]. As each repeat gives way to the next, we are exposed to the micro-timing, articulation and the speaker's pitch-inflections. This has the effect of making an everyday spoken-word radio broadcast acquire new contextual meaning. To illustrate the importance of repetition within music, cognitive scientist Elizabeth Hellmuth Margulis [44] carried out an extensive empirical study of the aesthetic responses to repetition, which she claims it was preferred even within what is considered complex Western art music [43, 45].

A consequence of using repetition and generative principles within my work means that the installation projects discussed in this paper are non-teleological and open artworks, the concept which is described at length by Umberto Eco in his book *The Open Work* [18]. I place the attribution of meaning with the participant instead of attempting to create a completed or finalised piece; in essence, the works are left open. For example, I will set up an environment where a process will begin, and the audience will essentially become a type of collaborator for the duration of their interaction with the piece. The two presented works are not built around a programmatic narrative, with a beginning, middle and end. They do not involve grand gestures or musical climatic points, but rather they durational, repetitive and non-teleological, and as such require the participant to interact actively with it.

In many ways it is a focused perceptual state I'm interested in achieving. I want the audience to experience and be aware of the sounds and how they develop. I believe that my move into this form of open and durational sonic expression came from a reaction to the practice of the finalised and fixed recording throughout my time as a musician. During this period, on listening to the material I had just committed to tape, like most musicians, I was never satisfied with what I had just performed, and even though I would continue to attempt to better the 'take', it just seemed to be always out of reach. So the idea of leaving a work open, meant that even I, as the creator of this piece, would have a new experience every time I was exposed to it. In many ways this echoes Eno's principle of generative music, where he contends, 'generative music is like trying to create a seed, as opposed to classical composition which is like trying to engineer a tree' [20].

5 *Wow&Flutter* (2017)

Wow&Flutter is a site-determined spatial installation consisting of eight turntables that create a 360° sound-field. As mentioned previously, I consider the record-player to be an objet d'art in its own right, particularly the older version with the built-in speaker, which is the type I chose for this installation. I designed a sculpted-stand and lighting

system to accompany each turntable, which enhanced the overall visual aesthetic of the installation. The approach to designing the sonic elements was twofold. Firstly, I composed the material from the ground-up, using synthesis, recordings of acoustic instruments and voices. Secondly, I used methods of sampling to take a fully formed section of music and manipulating it to achieve the results I needed, essentially utilising the technique of plunderphonics as discussed previously (Fig. 1).

Tracklisting for Side A:

- Recording of upright piano
- Sample from the track ‘things’ ...and after Optimism by amusement [17]
- Processed Waldorf Pulse bass synthesizer
- Sample from Collage #1(Blue Suede) by James Tenney [64]

Tracklisting for Side B:

- Children’s spoken words ‘wow’ – ‘flutter’
- Sample from ‘Part 3’ Metal Machine Music by Lou Reed [52]
- Sample from ‘Uberfahrt’ from the album 3 by Pole [4]
- Sample from ‘Tjatrack’ by Java the Jasmine Gamelan Music [61]



Fig. 1. Wow&Flutter, national concert hall, Dublin

Side A: There is a purposely long silent gap at the beginning of each side and also left between each track, so that the audience can experience the acetate slowly ‘scratching,’

‘popping’, and ‘crackling’ – sounds which become progressively louder with each play. I included a sample of Tenney’s ‘plundered’ version of Elvis Presley’s interpretation of the original Carl Perkins track from 1955. Although I would consider it unrecognisable in this instance. The gesture is tongue-in-cheek, but also acts as a signpost to my recognition and acknowledgement to what is considered to be the first plunderphonic artwork [11].

Side B: Has more percussive and transient material; the intent here was that either side could be played and would complement the other. This side starts with children’s voices saying the words ‘wow’ and ‘flutter’ and relates back to the concept of semantic satiation. The material here is self-referential, and the fact that it is two children speaking gives the work a sense of playfulness and lightness that could not be achieved with an adult voice. This slowly fades into a sample from a track by the artist Pole. This sample is again an appropriation of the artist who sampled from a dance hall reggae record, King Tubby’s Herbal Dub [55]. Tonally, its inclusion pulled the work into a more rhythmic area. The final section is a percussive track of gamelan music. I cut the sample into a very rhythmic 5:4 time signature, as the development of the accents would be fascinating within the turntable octet. The rationale for choosing and working with all of these specific materials is based on wanting variation in the timbral and harmonic content. Also, somewhat humorously, I wanted my work to sit side-by-side with artists I highly respect. The fact that the majority of the sampled material is highly processed and unrecognisable is also a deliberate aesthetic choice. This could be said to be an extension of the plunderphonic



Fig. 2. Detail from *Wow & Flutter*, national concert hall, Dublin

principal, rather than the purest representation of the artform as illustrated by the art collective *Negativland* [25].

Structurally there were three overarching aesthetic principals at play within *Wow&Flutter* (Fig. 2):

1. Turntable as an instrument and sound art object.
2. The concept of phase-shifting as a generative compositional tool.
3. The disintegration of the surface material as an aesthetic.

Essentially, each turntable contains a duplicate acetate plate, and it is the asynchronous interaction of the record players over time that creates the generative aspect. In an attempt to eliminate the division between artist and audience, I emphasized and exploited the interactive nature of the turntable, as I believe they inherently invite tactile use. Primarily, my intention was to create a responsive and reactive environment, albeit a playful one. Acetate is a very soft plastic medium that coats a metal plate, which when held is surprisingly heavy. I wanted participants to feel, touch, and experience acetate both as a sound carrying medium, and as an object in its own right. The installation was designed with this audience interaction in mind. If a participant wanted to change the speed of a turntable from 45rpm to 33rpm, they could do so. It would pitch shift by approximately a fourth, so it would still be consonant within the overall work. I used some rudimentary mathematics¹ when designing the piece that enabled me to understand how each turntable would interact in terms of pitch shift. The equation used was:

$$n = 12 * (\log(f2/f1)/\log(2))$$

where n is the number of semitones from original to new pitch. Importantly this meant I could better understand the interaction of each section prior to the final print. The technique of phase shifting, in which two or more identical musical patterns are played simultaneously but at slightly different speeds, was expanded upon further by using eight turntables playing asynchronously. This is similar in principle to works by Eno and Reich. However, my point of departure was in the exploitation of the inherent characteristics of acetate as the medium, which is tangible, malleable, but also very fragile, which imparted a singular uniqueness to this installation. The fact that the work is interactive, performative, and could also be viewed as a sculptural object, distinguishes my work from many other artists working with turntables. In this instance, the turntable is both a piece of visual art and a haptic instrument. It is corporeal, in the sense that the stylus, the record, and the participant are entwined into a physical relationship which engenders the discovery of new perceptual sonic experiences. *Wow&Flutter* exploits the innate sonic characteristics of acetate vinyl. One particular attribute of an acetate record is the fact that the sonic material is bound to the physical object, albeit in stasis, and the degeneration of the plastic occurs in real-time, as the turntable needles scratch out the groove. This disintegration of the object is at the centre of this work. Surface noise gradually appears, and the sonic quality of the original work slowly disappears, becoming almost a palimpsest, similar in principle to Robert Rauschenberg's *Erased*

¹ Equation: 33.33 to 45 rpm $n = 12 * (\log(45/33.33)/\log(2)) = 5.20$ (semitones, rounded up).

de Kooning Drawing [51]. I use acetate as it disintegrates more rapidly than standard vinyl and therefore the printed material ages with each successive play until the surface noise itself has become intertwined with the printed audio. Eventually, the original recordings that were on the acetate almost disappear under the surface noise, ultimately turning the work into an accelerated aged piece. In a world in which digital accuracy and clarity is everything, I want to make people aware of these temporal idiosyncrasies and imperfections of a beautiful legacy medium such as acetate.

6 Collision (2018)

Having completed *Wow&Flutter*, I was commissioned to create an installation experience for the Hearsay Arts Festival in Co. Limerick, Ireland. The main diverging point from *Wow&Flutter* was that only three professional turntables were used. I also worked with a more limited palette of material. By constraining myself to just two audio sources – voice and piano I could explore the concepts of generative development, surface noise, and repetition in greater detail. The choice of sonic material for this piece was in some part influenced by Brian Eno's *Ambient 1: Music for Airports* [19], which also consisted primarily of voice and piano. Again, the rotation speed of *Collision* was designed to work at 33RPM or 45RPM, with tempo and pitch scaling at 73% and ± 5 semitones respectively. My artistic stance is similar to that of Christian Marclay, as he aims 'to make people aware of these imperfections, and accept them' [10]. Along with these points, I further explored the turntable as an interactive and performative medium.

The standard seven-inch single disc was chosen for this composition with each side at three minutes, a nod to the maximum duration audio content on a '78' vinyl, and the length of the classic three-minute pop song. I recorded an upright piano and placed the microphones very close to the hammer felt, so you could hear the mechanical movement within the piano.

Liberal amounts of reverberation were then applied to place this close recording at a more perceptually diffuse distance. The vocalist listened to the chord progression as she improvised her performance. I instructed her only to use non-verbal utterances, as this was not a lyric-based work. The vocalist was recorded in a single take to highlight a sense of her searching for a note, which is conceptual approach similar to my piece *Rehearsal*. The end result is that there is no linguistic or semantic meaning within the work and, as it is based on generative principles, it is almost impossible to predict the interplay of each turntable.

Another explorative point differing from the previous installation was the principal of repetition and specifically the locked groove. Having listened to the albums *RRR 500* [67], a compilation of locked grooves by Various Artists, *Cycle 30* [46] by Jeff Mills and *You're the Guy I Want To Share My Money With* [3] by Laurie Anderson, John Giorno and William S. Burroughs, I sought to create a work that would function simultaneously as a sounding and sculptural piece of art.

The locked groove was explicitly composed for these acetates and, figuratively, the installation never ends, as it continues to play out indefinitely. The duration of the locked groove will vary with revolutions per minute; at 33rpm, the duration is 1.8 s, and at 45 rpm the duration is 1.3 s. As I was using better quality turntables and replay

system, and the environment was tranquil, the three turntables' locked grooves worked very well together in creating a generative work that had a certain fragility to it as it slowly disintegrated. This installation is based on the performative aspects of turntables comparable to *Wow&Flutter*, but rather than using eight record players; I decided to explore a more minimal approach similar to Eliane Radique's turntable piece $\Sigma = a = b = a + b$ [50], which comprised of two independent turntables and vinyl 7" discs (Fig. 3).



Fig. 3. Collision, three turntables in exhibition space

I should point out here that in the creation of these turntable works, I never knew if the combinatorial aspects would be successful, as it was impossible to test or audition the interaction of the discs before they were cut. This uniqueness and, in many ways, an opposition to mass production furthered my interest in working with this material. The process of acetate lathe-cutting is a one-time operation, and the turnaround time is particularly long and relatively expensive (Fig. 4).



Fig. 4. Detail from collision

7 Conclusion

This paper was an exploration of the experimental use of acetate vinyl and multiple turntables using reappropriated and plundered sound as a creative material. The two pieces discussed looked at the performative and interactive qualities of the turntable within an installation setting. Overall the two works could also be considered as sculptural objects within the definition of sound art. The works spatial aspects in terms of the acoustic setting explore their sonic alterity and engender further discussion of the mediums compositional use in what could be considered a post-digital age. These two turntable pieces draw on influences from John Cage and Marcel Duchamp to demonstrate the structural ideas of experimental music within a sound art setting. By embracing the temporal nature of acetate material and the spontaneity of the interactive and generative process I believe a unique aesthetic experience was afforded by both these works.

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