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# **Approaching Forms and Structures in Electronic Dance Music**

Andrei Sfetcu

A thesis submitted to the University of Huddersfield in  
partial fulfilment of the requirements for the degree of  
MA by Research

The University of Huddersfield

May 2018

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## Abstract

This research deals with the development of forms and structures in Electronic Dance Music from a producer-composer's approach. The thesis is first concerned with several theoretical notions involved in the study of rhythms and structure, such as embodiment, trance states, groove, repetition and variation, metrical processes, tension and release, entrainment and spontaneity. The research questions are answered through a practice-based research approach, with the theoretical ideas discussed informing the practical side of the study. The research also explores the works and practice of electronic producer Nicolas Jaar in the form of a case study. The author investigates several structuring principles common to Electronic Dance Music as well as different production methods through a portfolio of seven original compositions with an accompanying commentary. The study explains what the aim of an effective structure in Electronic Dance Music is and how the author has used several processes and methods to achieve a spontaneous approach to producing.

## List of Submitted Works

Sufi Train (Lounge Mix)	4:08
Sufi Train (Club Mix)	6:36
Drips	11:24
SarabaFlip	2:25
Loop No. 2	6:33
LatCrunch	5:48
BDLW	8:52
Total Length	45:45

## Introduction

This thesis investigates the structuring principles behind Electronic Dance Music (EDM) pieces. It focusses on the compositional considerations involved in the development of functional and effective EDM structures. It does so from a producer-composer's perspective, through seven original compositions and an accompanying commentary and analysis. The project is first concerned with the aim of EDM structures, what they are trying to achieve. It questions the notions of trance, how and if such altered states can be triggered through music. This project also inquires on the relationship between repetition and variation and their role in the development of tension and release in EDM tracks. The issue of spontaneity in composition is also considered, as well as the role that improvisation might play during the process. Finally this project asks how I can compose tracks which appeal to both an interacting crowd of dancers and the home listener, how it can bridge the gap between "track" and "song" (Eshun, 2000, p. 78).

This project's methodology is focused on practice-based research, informed by several authors' work in the field of EDM analysis, most notably Butler (2006), Zeiner-Henriksen (2010) and Danielsen (2010). I approached the subject by first gaining insight into the existent research in the domain of musical rhythms and forms. This preliminary research informed my compositional methods as I included or adapted the ideas discussed. This further allowed me to draw conclusions from the practical aspects and develop several compositional approaches. The practical side of the project was inspired by the ideas of Brian Eno, Nicolas Jaar and several producers from the Detroit house scene, such as Theo Parrish.

The nature of this submission is a CD portfolio of original compositions with an accompanying commentary dealing with the formal concepts supporting the submitted pieces. The first section of this thesis deals with the theoretical Research Context, starting with cultural, physiological and ethnographic considerations, before analysing the different rhythmic constructions, from the micro (grooves and loops) to the macro levels (patterns and sections). The research also briefly deals with rhythm perception and analysis. The second section is a Case Study of Nicolas Jaar's approaches to production, as his work is particularly influential to this project, not only aesthetically, but also in terms of bridging the gap between the club-orientated and the home-listening aspects of EDM. The third section is a track-by-track commentary of the original compositions, focussing on the different processes, influences and formal considerations. The thesis ends with a brief discussion and conclusions.

# 1. Research Context

## **Definitions and Cultural Aspects**

The term EDM has come to encompass a wide variety of different styles, such as house, techno, jungle and ambient, yet they all feature common characteristics which define the genre (Butler, 2006, pp. 32-3). A prominent characteristic is repetition, as the pieces, or tracks, are built around the repetition and variations of smaller musical fragments, or loops. These loops are rhythmic in nature. Drums and percussion are at the foreground, while the harmonic and melodic elements (if any) also tend towards a rhythmic function, shorter riffs and patterns being preferred to larger phrases and movements. The focus of EDM is more on rhythmic development, rather than the harmonic and melodic development usually present in Western popular and art musics. The lower end of the harmonic spectrum is also emphasised, with particular attention brought to the kick drum (usually marking every beat, in a four-to-the-floor style) and the bass instrument, which, more often than not, constitute the driving force in the arrangements (ibid. p. 91).

These characteristics all work towards a common goal, which is to incite the listener into dancing. The environment in which the music is generally consumed, be it clubs or festivals, as well as its medium (large loudspeaker systems, emphasising the volume and the bass frequencies of the tracks) are also determining factors. Indeed, as Gilbert & Pearson (1999, p. 45) note, the corporeal nature of music is accentuated by the settings. A dancer at an event not only hears the music, but also feels the vibrations resonating throughout their body, implying an embodied response to the sounds.

The relationship between music and dance yields further physiological effects on the crowd. Indeed, many ravers recount having experienced altered states of consciousness while on the dance floor: feelings of total bliss or ecstasy; disappearance of the notion of 'self' and the ego; and an enhanced feeling of unity and social connection with the rest of the crowd. Gilbert & Pearson suggest that this state is similar to Roland Barthes' notion of "jouissance" (1999, p. 64-5).

From an ethnographic perspective, the cultural environment of EDM can be viewed as a ceremony, or ritual whose purpose is attaining the trance state. The notion of trance has been thoroughly discussed by Gilbert Rouget (1985), and his theories have been compared to the effects perceived by ravers and clubbers (Rietveld, 1998; St John, 2004; Till, 2010; Zeiner-Henriksen, 2010).

Rouget states that there is no causal relationship between music and achieving trance states, attributing the phenomenon to the cultural expectations surrounding the trance ritual. He notes,



however, some characteristics of the music present at trance ceremonies. For instance, the music may be relatively loud and feature heavy rhythmic repetition. Drums seem to be unanimously preferred, although again, there is no clear relationship between the instrument and the triggering of trance. Furthermore, the music tends to feature rhythmic breaks or abrupt changes in rhythm as well as accelerandos and crescendos, usually associated with the moment when the trance state is triggered in the participant.

The use of psychedelics and entheogenic drugs is also an important and well discussed aspect of EDM culture. LSD, amphetamines, cocaine and especially MDMA (or Ecstasy) are predominant among clubbers and ravers. There are, as Till notes (2010, p. 146) many similarities between the effects felt by a clubber having taken MDMA and a participant experiencing a pre-possession crisis (Rouget, 1985, p. 38). Many ravers, however, assert drugs are not essential to their enjoyment of the event, nor are they indispensable in achieving trance states. Indeed, many participants claim to never use drugs. But even though drug-taking in itself is not essential, the ideas and imageries of psychedelics are commonly found in several cultural aspects, notably the visuals and sampled vocals connoting altered states.

Although the specific details of EDM trance correlate more or less with traditional possession trance cultures, the main two musical characteristics Rouget describes can be found in EDM compositions, most notably during breakdown sections (as seen further on). Apart from these, the only other consideration when it comes to producing trance-inducing dance music is that it must incite the listener to participate and dance, therefore the piece has to groove.

## **Rhythmic Analysis and Perception**

The notion of groove has been the subject of several works, most notably Keil and Feld's *Music Grooves* (1994). Keil and Feld describe a groove as a "regular, somewhat sustainable, identifiable and repetitive" musical fragment whose primary focus is rhythm (1994, p. 23). They note that the essence of a groove lies in its repetitive nature, or as Hughes puts it "a figure is not a groove unless it is designed to be repeated" (Hughes in Zeiner-Henriksen, 2010, p. 153). When grooves are performed, certain variations occur between the cycles, which Keil terms 'participatory discrepancies' (PDs). These discrepancies are both processual (dealing with timing and swing) and textural (dealing with timbre and sound quality), they provide the feeling of "out-of-time and out-of-tune-ness" which is essential in creating a human aspect to the music and incite an emotional connection with the listener (1994, p. 120). Another key element of grooves is syncopation.

It is useful here to investigate the notions of rhythm, pulse and meter. Although these terms have usually been discussed in relation to classical music, some definitions are essential in understanding rhythmic processes. For instance, rhythm can simply be qualified as the organisation of musical time (Butler, 2006, p. 77). Pulse refers to the isochronous rhythmic stimuli underlying the groove (Iyer, 1998). Although it can be a materialised part of the groove, the pulse can also be subjectively felt by the performers (Cooper & Meyer, 1960, p. 3). In this way, it is similar to the notion of “tactus” as a constant reference point in complex African polyrhythms (Arom, 1991, p. 206). Abel notes that the groove bears a “strict attitude to the pulse,” though rigidity is not necessarily implied, so PDs (particularly at the processual level) can be seen as deviations from the pulse grid (2014, p. 26 ). The term meter, however, bears a more complex status. Meter is usually associated with time signatures, and Cooper & Meyer define it as “measurement of the number of pulses between more or less regularly recurring accents,” inferring that some pulses are more pronounced than others, creating ‘strong’ and ‘weak’ beats (1960, p. 4). These accented beats aren’t always materialised, or in other terms, “meter is [...] in the mind” (Blom & Kvifte in Zeiner-Henriksen, 2010, p. 145). Danielsen further points out the “interaction between non-sounding reference structures [...] and sounding events,” meaning that the interpretation of meter and rhythm is subjective to the listener (2010, p.19).

The study of meter is an important part of Butler’s *Unlocking the Groove* (2006), particularly in terms of metrical interpretations. Butler notes how tension and interest is provided by the different layers of motions present in a groove, allowing the listener to choose which layer to focus on. This includes different metrical processes, which Butler divides into ambiguities and dissonances. Metrical ambiguities are largely based on the process of underdetermination, or the lack of rhythmic information needed to determine the meter of the track (p. 130). A similar phenomenon, which Butler terms “ambiguity of beginning” implies that the metre of the groove is defined, though its starting point (the ‘one’) is not (p. 124).

Metrical dissonances on the other hand are based on the different interpretations that a groove can hold. “Displacement phenomena” involves simple metrical displacements which invite the listener to reinterpret the locations of the strong and weak beats of a groove. The most common example of this is called “turning the beat around” and usually involves the introduction of the kick drum in an unexpected metrical position (pp. 139-42). “Grouping dissonances” imply the juxtaposition of layers of different metric inclinations, such as triplets against the straight 4/4 beat common to EDM (p.155).

Much of the tension and drive of EDM tracks is brought forth by these varying interpretations of rhythmic events, which is closely linked to the notion of attention and expectation (Clarke, 2005). Jones (in Zeiner-Henriksen, 2010, p. 123) asserts that “rhythmic processes tend to

adjust themselves to other occurring rhythms”, implying that the human body’s internal rhythm can be synchronised to external rhythmic events, such as the different layers of motion in a groove. This concept of entrainment creates expectations in the listener, who can interact with the rhythmic information and try to predict the next event, evoking an emotional response (Meyer, 1956). Unexpected events generate tension in the listener, a good example being the removal of the bass drum during breakdown sections, an important EDM structural process whose return marks a satisfying release. Tension can also be created by conflicting rhythmic patterns, such as metric ambiguities and dissonances. Furthermore, some expectations are also cultural in nature, as the fans and listeners of EDM become accustomed to its stylistic conventions. The generation of tension and release and the ability to control it effectively are highly significant components of EDM structure. Consequently, the emphasis of these forms is on its processual development.

## **Patterning and Sections**

Once a groove or loop is constructed, the producer has to find the most effective way to present it, in other terms, developing that groove over larger structures. The loops may be varying in length but are usually repeated in pure-duple groups (Butler, 2006, p. 179), meaning that larger phrases and sections are often in multiples of two (8, 16, 32 bars). Although the form of EDM pieces differs according to each producer’s approaches and preferences, some formal sections emerge as common guidelines. Butler (2006, pp. 223-4) and Snoman (2013, pp. 48-51) discuss these different sections.

For instance, a track starts with an introduction, presenting some of the main elements of the track while maintaining a sparse texture. In a club-orientated track, the introduction should comprise the main rhythmic information (the beat) to allow the DJ to beatmatch and mix the track into his set. An absence of pitched elements also allows for smoother transitions, avoiding potential harmonic clashes and dissonances with the previous track of the set.

Following the introduction is the “buildup”, a section whose aim is to increase the tension and intensity of the piece by gradually introducing new instrumental parts. As Butler notes, this section is often vaguely delineated, and could be a part of the introduction or core, becoming more of a “technique” rather than a section.

The “core” is the main groove of the track. A certain intensity has been reached and all the essential instrumental parts have been introduced. Some variations can occur in the core, although the number of different textural elements remain the same. The core is the most representative and

most recognisable part of the track, similar to the chorus in pop song forms. More often than not, this section appears more than once in the track.

The core is usually followed by a “breakdown”. During the breakdown, the beat drops out, especially the kick drum, creating contrast within the track. The intensity is brought down, and the focus is on a few textural elements. The producer tweaks the effects and processing parameters, slowly building the track back up to the return of the core (or “the drop”). The absence of the regular kick drum (the main reference point for dancing) is greatly felt by the listener, whose attention is now focused on the DJ, anticipating the inevitable return of the lower end. As Solberg points out, “the surprising element lies within the questions of precisely when and how” this return is achieved, to which she suggests several methods (2014, p. 67). The first is the use of “uplifters,” rising effect or atmospheric swells presenting a vertical pitch movement (from low to high). Uplifters indicate to the listener that the attention of the track is moving towards something new. The second, the “drum roll effect”, involves the progressive division of a drum pattern, usually a snare drum (p. 70). As tempo variations are uncommon in EDM, this technique is the closest to replicating the *accelerando-crescendo* mentioned by Rouget. In a similar way, the removal of the beat during the breakdown also relates to Rouget’s statement that abrupt changes in rhythm are needed in triggering trance states, thus making the breakdown a crucial section in EDM structures.

Finally, an “outro” ends the track, similar in density to the introduction, this time the instrumental parts drop out, leaving a sparser beat, again to allow the DJ to mix in to the following track. The typical EDM fan and dancer is familiar with these formal conventions, which allows for producers and DJs to play with their expectations by experimenting with different combinations.

## **Production Methods**

The most common method of structuring is to perform the track (using hardware sequencers, drum machines and synthesizers) in a live take, while triggering, muting and tweaking the different instrumental parts. Detroit-based producer, Theo Parrish, mentions that he will perform several live mixer takes (Red Bull Music Academy, 2017) and release the most satisfying one, while fellow producer, Moodymann, working in a similar fashion, has been known to press different takes of the same track without any notice on the release (Red Bull Music Academy, 2015). Although the formal guidelines (set lengths of sections) are usually respected, the EDM producer uses these guidelines as parameters, playing with them and achieving more spontaneous results. This method bears similarities to Eno’s “In-Studio Composition” (Eno, 2004, pp. 127-130), in the fact that some

compositional decisions are made intuitively as well as the unpredictability of the live performance setting, which allows for the potential of unexpected results.

With the advent of digital audio workstations (DAWs) and offline rendering, the workflow has changed; sections can be reworked and edited, the act of performing is not systematically required anymore and the feeling of immediacy is not always as present in the compositional process. For example, the DAW-inspired variant to Parrish's approach would be to compose the main groove, duplicate it several times on the DAW timeline, and progressively delete different instrumental parts in groups of 8 or 16 bars, thus creating a basic structure. The producer can afterwards add effects, filtering, uplifters and breaks, as well as refine the transitions.

Through my approach to composition, I've noted that the material or instrumentation used is a defining factor in approaching structure. For instance, if a track is built primarily around a loop sampled from another piece, which is very common for filter-house or disco edits, filtering becomes the main tool in creating variations. This implies aesthetic considerations; if the producer wishes to remove the bass during a drop for example, he has to cut the low end, which might also include other instruments. Some producers who are influenced by hip-hop, like Ethyène (2016) or Folamour (2016), combine samples from different sources, allowing for more freedom. In this case, the challenge lies in finding matching or, even better, isolated instrumental parts to sample. Using live instrumentation, on the other hand, gives the producer more possibilities to develop distinct sections. The final method, which I term MIDI compositions, involves using using MIDI note sequences whose sounds can be altered or completely changed at any time during the production stages. The producer does not have to commit to set sounds, allowing for more freedom though, again, potentially losing the feeling of spontaneity. Therefore, the combination of sampling, MIDI and live instrumentation would produce the most effective results.

We have thus seen the different aspects involved in constructing forms in EDM. Most of these considerations are based around the fact that these tracks are club-orientated, and thus made with an interacting, dancing crowd in mind. The next section deals with a case study on Nicolas Jaar, whose work is an example of how these conventions can be blended with more popular forms and song-based approaches.

## 2. Case Study: Nicolas Jaar

Nicolas Jaar is a Chilean-American producer and DJ known for his experimental approach to electronic dance music as well as his production style, described as a trippy, dreamlike exploration into themes of melancholy and separation (Interview Magazine, 2011). He has released two albums, two soundtracks, eleven EPs, as well as a number of edits and remixes for other artists. Jaar also runs a record label, Other People, and forms one half of Darkside alongside his frequent collaborator, guitarist Dave Harrington.

### **Sound**

Nicolas Jaar's productions have a distinct and easily recognisable sound. Although his compositions are rather diverse and incorporate a number of different styles and influences, Jaar has a certain sound palette which he prefers. In a 2011 interview, Jaar describes his own sound as:

going against the really fast, harsh techno sound, against the whole clubby aspect of it. It's kind of also going against the drug aspect of it and the wasted aspect of it. It appeals more to emotions, it's much slower. (Interview Magazine)

This statement is a good description of his earlier works, whereas more recently, with the releases of the *Nymphs* series of EPs (2015) and second album *Sirens* (2016), his style has shifted to incorporate modular synthesis and heavier audio processing. Jaar's productions tend towards development as opposed to plain repetition and variation, the sounds in his pieces evolve and change, moving textures and samples are added to create a narrative and constitute an organic flow. "Dubliners" (2010) provides useful examples: the glitchy percussion loop at the beginning of the track and the hi-hat loop (2:48) are modulated constantly throughout the track (filtering, pitch shifting, beat warping/glitching); the processed piano part, perhaps a comp/selection from a longer improvisation; the recordings of squeaking doors (2:30) mark a transition between sections, as well as several water samples throughout the track.

As well as producing dance edits of a variety of tracks (from sixties soul to modern indie and hip-hop), Jaar sometimes samples other pieces in his productions, most notably Ray Charles on

'I Got a Woman' (2011). Jaar also has many of his own recorded samples. His first album, for example, featured various water sounds, recorded in his flat, which added an additional textural layer to the prevailing melancholic mood. He explains his approach to samples:

"I had a period when I was recording a lot, I'm not really into that anymore. [...] I was trying to create a little world, like you know, look around. And you had textures that were kind of three dimensional. I mean that's what I wanted to do. So I felt like having both the music be textured and kind of live inside a space, whether it's nature or a room or whatever, I thought that was important for my first album." (wordandsound1, 2011)

Jaar himself has made a precise distinction between his album pieces and his club-orientated tracks, implying that he's more abiding of popular conventions when it comes to the latter. However, even a piece like 'El Bandido' (2010), an early club track, features an uncommon structural approach; the piece is built around Jaar's voice over an electronic beat with a typical electric piano and synth bass accompaniment. However, at 4:07, he introduces a four-bar disco sample (Geraldine Hunt's 'Can't Fake the Feeling', 1980), which provides a harmonic and textural development, before being incorporated back into the initial beat for the final verse.

Finally, his early output is marked by the use of recognisably typical sounds from the Ableton Live DAW. By listening to some of the tracks, I have identified several in-built Ableton devices, such as 808 samples, the Resonator and Corpus plug-ins, as well as Operator and Analog patches. Ableton's distinctive warping algorithm can also be heard, particularly Beat Warping on percussion loops.

## **Creative Approach**

Although Jaar rarely mentions Brian Eno's influence on his work, there are many similarities between both producer-composers, especially in terms of approaches to composition and studio philosophy. Both refer to themselves as producers first, and both consider technology as their main instrument: 'I did [Ableton] Live for six years. That's my instrument, for sure,' says Jaar in an 2011 interview.

Furthermore, both producers share a similar approach to composition, which relies heavily on chance and improvisation. “I’ve always treated the creative process as complete chaos,” says Jaar. “You know? Whatever comes out. I’m not trying to do a specific something.” (Dummy Mag, 2011) Much like Eno (Tamm, 1989, p. 76), Jaar enters the studio with no or few ideas and intents, instead allowing his mood to dictate the tone of his productions. In a 2016 interview with Rolling Stone, he explains how his track ‘No’ (2016) came from a short three-hour session inspired by a reggaeton song heard while out shopping. “It ends up sounding like whatever that sounds like.” (Battaglia, 2016)

In terms of his approach to chance procedures, Jaar is heavily influenced by the philosophy of John Cage. While composing *Sirens* (2016), Jaar followed a similar method to Cage’s, when he

woke up early in the morning and did what he describes as “a lot of chance-based stuff.” He opened books to random pages and read whatever he saw, and spent hours each day writing using a free-association method. [...] “What do I really want to say here?” (Ihaza, 2016)

Jaar has often mentioned his disinterest in conventional forms, like producing a “normal tech-house track” (Dummy Mag, 2011) or composing songs (Breen, 2012). “I like the idea of playing at the limits of things,” (Dummy Mag, 2011) he also states, preferring to let his interest with gear and technology guide his creative steps, as opposed to simply following pre-established formats (or even “presets”). He is quoted saying:

I do think that if you go into the studio and you just really do whatever, like you don’t go and try to make this kind of track or that type, you just go and try to have fun and complete chaos, complete craziness, then if it’s true, it’ll probably stand the test of time. (Telekom Electronic Beats, 2013)

Another interesting aspect of Jaar’s music is his approach to tempo. Many remarks (Dummy Mag, 2011; Jonze, 2012) have been made about the generally slow tempo of his pieces (usually around the 100 bpm mark, rarely above 120 bpm) but Jaar describes it as

just making music in a tempo that is I guess experimental for dance music, but kind of normal for any other music. The heart, it’s not going that fast, you know? I’m just trying to make something honest, and honestly, it comes out around 100 or 105 bpm. (Dummy Mag, 2011)



Jaar also uses tempo as a compositional tool, and tracks such as ‘Time for Us’ (2010) feature important tempo variations, going from 115 to 75 bpm. Jaar also plays with tempo during live performances, sometimes going to extremes, like 20 bpm (Ableton, 2011). He seems fascinated with the notion of tempo and the elasticity of time, as he explains that the latter track was composed with the tempo change as a guiding factor:

The music was almost not the point. The fact that it slowed down was almost like the whole thing. I mean I made the music so I like it but... Playing with time is super interesting. I mean it’s been done, but with electronic music it’s so easy to not do it. (Dummy Mag, 2011)

Furthermore, Jaar’s approach to space and textures is also an important aspect of his compositions. He cites Ricardo Villalobos as his main influence in terms of sound colour, particularly his 2004 album *Thé Au Harem D’Archimède*, noting that Villalobos’ textures carry an “emotional resonance,” (Dummy Mag, 2011) and that his pieces “had a really bizarre sense of timing and space, just a very loose, impatient, sad texture that I thought you couldn't do with rock, couldn't do with hip-hop.” (Interview Magazine, 2011) The slow pace of his tracks allow for such textures to expand and take on an important role, sometimes even becoming a driving element in the piece. Jaar’s compositions are also concerned with the notions of noise and silence. Beyond the simple use of noise as a tool (such as white noise sweeps), Jaar compares his approach to noise to how he incorporates various influences in his music:

noise is the accumulation of a lot of sound, right? But that you end up just hearing noise, so you end up just not hearing anything or you hear [...] I try to influence my work with a lot of different, separate things, that it’s kind of like, so many points of reference that in the end there’s no point of reference. (Le Drone, 2011)

The notion of silence seems more relevant, especially when considering the sparseness of his pieces. Nicolas Jaar notes, however, that “pure” silence isn’t something in which he’s interested, but rather “the ghosts that appear inside the silence.” (Dummy Mag, 2011) This can be interpreted as the almost inaudible artefacts that his textures carry at times, similar to Daniel Lanois’ concept of “background information” or “extractions” (Lanois, 2012) as in sounds and ambiences that appear

in the background of a recording, not always noticeable, but essential in creating a compelling atmosphere in the character of the pieces.

Jaar's approach and use of space is an interesting aspect of his productions. As well as the thematic references to spaces, Jaar's use of ambience is important in generating tension and release. For example, the track "This Old House is All I Have" (2018) starts out with a wide spatial texture, with long reverbs and echoes on the vocals, drum breaks, and horn samples, implying a sense of distance. The introduction builds up (tension) towards a drop (release) at 1:06, when a funk influenced groove enters with a more intimate spatialisation. Jaar's use of this change in space, between large/far and small/close ambiences, has similar effects to more traditional drops involving large frequency changes.

To summarise, we have seen that Nicolas Jaar's approach to EDM composition focusses more on the textural rather than processual. His pieces tend to follow a narrative structure rather than being concerned with strict dance-orientated features, though this doesn't prevent these tracks from working in a club context. Several of his techniques are insightful to this study, such as his use of space, silence and noise, or his philosophy on tempo, sampling and studio creativity. The following section discusses how these ideas are explored through practice based research within my own approaches to composition and producing.

### 3. Composition Commentary

#### **Overview of my compositional methods**

The following section describes and analyses the seven tracks included in the composition portfolio, dealing with their initial concept, the compositional process as well as their distinct structuring principles. The section begins with a brief overview of my approaches and methods to composition.

My main tool is a MIDI MPC, which I favour because it allows for a tactile approach to programming. Its faders, knobs and buttons allow for a lot of control, especially in Ableton, my primary DAW. As a result, sampling plays an important part in my approach to production. When I sample other records, I choose samples based on their textures and ambiences. These samples add a warmer analog dimension to the overall sound design of a track, having already been processed and mixed in different sonic contexts. Similarly to Nicolas Jaar, I prefer to work at slower tempi, as I find the interaction between the layers of the groove more noticeable and perhaps even more effective. The following tracks, however, display a wider range of tempi.

More often than not, I start by composing the main beat and bass groove, which constitute the backbone of my tracks. As Danielsen et al. discussed (2010), slight variations (PDs) to the pulse grid are essential in creating an efficient groove. A common method would be to apply swing or groove templates, though I tend to play the beat on the MPC pads, adjusting the timings later on if necessary. I prefer to create my own groove, and then potentially re-use it for other elements, using Ableton's 'Extract Groove' feature. Once the main beat is adequately grooving, I try out several ideas, be it samples, harmonies, riff or melodies, until I have a longer four or eight bar loop which I can start processing in a live context. For this study however, I expanded on my methods. Some of the tracks were created using a similar approach while others were made in a more linear fashion. This coincides with the two modes in Ableton Live, the Arrangement View (a time line similar to a multitrack tape) and the Session View (a mixer with triggerable sequences).

## “Sufi Train (Lounge Mix)”

(4:08) - 107 bpm

### Concept

This track explores the project research questions by examining ambiguities and the use of shorter song forms within EDM structures, which do not allow a trance-like sense of entrainment to develop.

This track is the first of two remixes of a blues song I was asked to help engineer. The original song was composed by Sarah Naseem, and I assisted during the recording of a stripped down version featuring acoustic nylon-string guitar and vocals. The original piece is a blues song form with verses, choruses and a middle eight section. The middle eight features vocals sung in Urdu, which I thought would work well in a EDM remix.

This first remix is more laid-back and has a ‘lounge’ feel. It is intended as a shorter “radio edit” as opposed to the second, more dance-orientated, “club mix” (Zeiner-Henriksen, 2010, p. 96). This track is inspired by shorter electronic pieces which implement song forms, notably Nicolas Jaar’s first album *Space is Only Noise* (2011). Funk pieces were also an inspiration (James Brown, 1988), particularly the interplay between the vocal sections and the instrumental breaks.

### Composition

Sarah recorded three different versions of the Urdu middle eight which I first comped into a single take before devising a suitable groove and harmonic backing. Due to the particular vocal articulations and uneven phrase lengths, it was rather difficult to construct a groove that could be repeated for the whole duration of the track and as a result, some rhythmic elements have a greater deviation from the grid. The kick drum is one of those elements, although the deviations aren’t felt in the context of the whole groove.

The harmony is based around two chordal patterns which don’t comply to a conventional formal structure, but rather follow the vocal comp, giving the track a more organic flow. The choice of chords was inspired by one of Nicolas Jaar’s remixing techniques, which involves using a sadder sounding bassline to completely change the mood of a track (Jonze, 2012). I decided to apply this technique to the chord structure, opting for more developed, jazz influenced chords as opposed to

the original blues I-IV-V. The result is that the track feels more melancholic, similar to early Herbert productions (1998).

I also used smaller samples from Sarah's original guitar performance, which act as pick-ups and enhance the groove. During the outro, the guitar riff is complemented with additional nylon-string samples gathered during a improvisation session (see "Drips", p. 23), giving the illusion that they are part of the same source and constitute a thematic development. Another important element of the track is the improvised Wurlitzer solo, which is a driving feature during most of the breaks.

## **Structure**

The track starts with an ambiguity of beginning (Butler, 2006, p. 124), as it isn't clear which rhythmic layer, the rim shot or the clap, constitutes the backbeat of the groove until the entry of the kick drum (0:45). This is followed by a one bar kick drum break to further emphasise the 'one' of the groove and the metrical direction of the track. The kick drum then plays constantly throughout the track. I was influenced by Ethyène's track "Ain't No Love Lost" (2016, track 3), which also features a constant kick drum, and I wanted to experiment with the concept of not having a defined breakdown section. This allowed me to insert shorter breaks at the end of every eight bar section, a process which would seem redundant if used in longer, club-orientated tracks. The system of tension and release is operating here at shorter intervals of time (small feeling of release every eight bars), as opposed to longer developments (32 or 64 bar buildups, for example).

The bassline enters relatively late in the track (1:50). As the kick drum and chord pad provide sufficient low-end content, the listener doesn't expect it when it appears, slowly building up tension which is released at the beginning of the longer instrumental break (1:59). This break is comprised of different sections. A 'fake' breakbeat (programmed from smaller samples instead of an extracted loop) is first introduced, adding a rhythmic layer to the groove, followed by a four bar harmonium melody, which isn't reiterated during the rest of the track. I wanted to experiment with using unique phrases as opposed to the more common approach of looping them, again playing with the listener's expectations of EDM forms. A similar process appears during the outro, first with a percussion loop, then with the reintroduction of the guitar samples.

What this piece illustrates is that within EDM structures, shorter song forms require more frequent variations, notably breaks and unique phrases, to maintain interest, whereas a longer, dance-orientated version implies more a more consistent sense of repetition which would become redundant in the shorter forms. A narrative approach to structure emerges.

## “Sufi Train (Club Mix)”

(6:36) - 107 bpm

### Concept

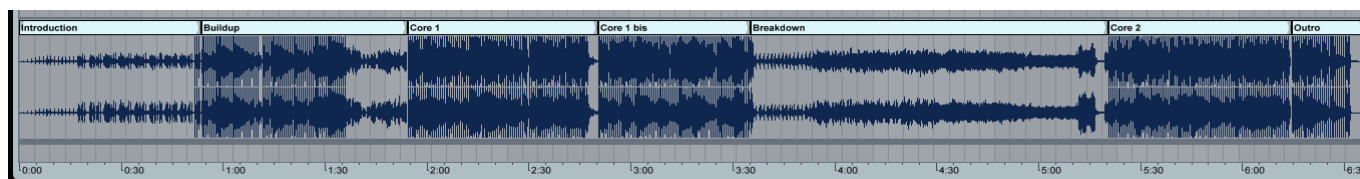
This track explores the longer dance form, in contrast to the shorter “Lounge Mix”. It also experiments with temporal variations, dealing with metric displacements and tempo changes. This is the second mix of Sarah Naseem’s “Sufi Train”, intended as a more club-orientated remix.

### Composition

Whereas the first remix focussed on vocal development, this club mix relies more heavily on rhythmic repetition. The harmony is simpler and revolves around harp samples from Dorothy Ashby’s rendition of “Django” (1984, track 1). The track also incorporates percussion samples from Akwasi Yeboah’s “Eye A Ko Ayie” (unknown date, track 6). I originally used these samples for different pieces, but was inspired by Eno’s approach of mixing different fragments to “see if any of them fit together” (Tamm, 1989, p. 76). The most prominent of these percussion samples (heard clearly at 1:53) is teasing the longer percussion break (1:54, 5:20) in a similar manner to the vocal samples from “SarabaFlip” (p. 25).

### Structure

This is the structure of the track:



During the introduction, a first groove, made up of three percussion sounds, sets the backbeat on the shaker/clap sample first heard at 0:02. The kick enters at 0:51 and turns the beat around (Butler, 2006, p. 144): the backbeat turns into an offbeat and leads the listener to reinterpret the groove.

Just before the breakdown, the tempo slows down in order to diminish the drive and energy, before building it back during the breakdown. The breakdown uses several processes to this effect:

large frequency movements from low to high, using filters and effect tweaking; short delays on the percussion instruments, building in intensity; a “drum-roll effect” which differs slightly from the one described by Solberg (2014, p. 70) in that the division of the pattern isn’t grid-based but fractal, further emphasising the accelerando-crescendo effect described by Rouget; large changes in space, from the fuller ambiance produced by the low-end impact, then decaying into silence before reintroducing the drop.

This track shows how tension can be created on the processual (displacement and tempo changes) and textural levels (spatial and frequency changes). In contrast to the shorter remix, these ideas can develop more slowly over time, inciting the listener to consider and interpret the different relationships between the layers of movement of the groove.

### **Samples Used**

Dorothy Ashby - “Django”, on *Django/Misty* (1984)

K. Yeboah’s Band - “Eye A Ko Ayie”, on *Akwasi Yeboah* (unknown)

## “Drips”

(11:24) - 108.39 bpm

### Concept

This track asks the questions of how structuring ideas from other genres can be integrated into EDM forms. It also explores the relationship between mechanical repetition (programmed loops) and live performance (instrumental solos).

The original idea for this track was to incorporate the chorus form common to jazz music, in similar fashion to St. Germain’s *Boulevard* (1995) or DJ Nature’s “Gentle Persuasion” (2016, track 1). The chorus form, as Kernfeld (1995, p. 41) notes, is designed to be repeated and can work well within a EDM context. Initially, the track was to feature several instrumental solos, all the same length (32 bars), with the main groove replacing the thematic melody usually found in jazz pieces.

### Composition

The beat is comprised of a kick, snare, shaker, hi-hat, claves, cowbell, clap and conga groove. The percussion instruments (shaker, claves, cowbell and congas) are programmed samples that I recorded, as I wanted the programmed, more mechanical beat to contrast the live performances of the pitched instruments. Underneath this groove is a very subtle recorded tambourine loop which serves the function of “background information” (Lanois, 2012) and acts almost like a pick-up (Zeiner-Henriksen, 2010, p. 170), pulling towards the first kick of the loop. The electric rhodes piano repeats a four bar figure with a turnaround on the fourth bar, based on two chords, similar to what Kernfeld describes as a static form in jazz (1995, p. 66). The bass guitar line was originally a loop, though I decided to also fully perform it, as to create more subtle variations and adapt the playing to the solos. During the introduction, the bass plays around with a simplified version of the riff, displacing it by an eighth-note.

The track is built around the different instrumental solos, played on electric guitar, tenor saxophone, piano, bass guitar, soprano saxophone and acoustic slide guitar. William Yates performed both saxophone solos, while I performed the electric guitar, piano and bass solos. The final acoustic slide guitar part is performed by Reece Cronin and was taken from a previous improvisation session I organised. I asked both Reece and Christopher McLaren to improvise along

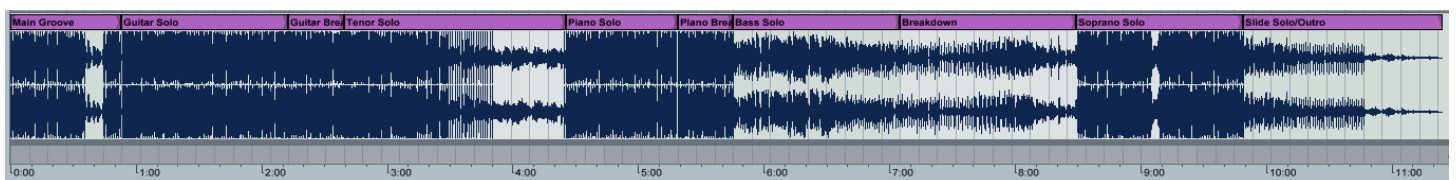


to each other, under my guidance, in order to gather some audio material to sample in other tracks. I then edited selections from that session and included them as an outro. None of the improvisations from the recording session matched the key of “Drip” so the phrasing of the slide guitar can sometimes seem unusual, adding a more spontaneous feel.

I also instructed William to play around with the timing of his phrases (2:53, 3:26), similar to the metric displacements performed by the bass in the introduction and outro of the track. During editing, I also played with the phrasing by moving some of the sections forward by a half bar (2:30 - 3:20). The fact that I kept the harmonic content simple allowed me to nudge the sections without creating any dissonances.

## Structure

The idea of keeping the strict 32 bar chorus form for the solos was quickly dropped as I noticed that William played more freely and developed his ideas better without having the time constraint. I decided to allow him to improvise for a longer period of time, while I was interacting with him by muting and tweaking the loops as he played. I then edited the best moments from his performances and build the sections around them. For example, the beginning of the soprano saxophone solo (8:20) functions as a drop, whereas the short two note tenor riff (4:20) is looped and provides a variation in the backing during the piano solo. The final structure is:



This track demonstrates how the blending of different structuring principles can work and how, in this case, a jazz-inspired form can still feature structural methods appropriated from EDM (breakdowns, build-ups). The piece also shows that when working with longer performed or improvised instrumental lines in an EDM context, these should be contrasted with more mechanically repeating passages for a greater effect.

## **“SarabaFlip”**

(2:25) - 95.46 bpm

### **Concept**

This track explores how rhythmic displacements can be incorporated in a more fluid way, without disrupting the flow of a piece.

“SarabaFlip” is a short hip-hop beat, inspired by the sound and methods of the Los Angeles Beat Scene, and mainly the works of Knxwledge (2015) and Flying Lotus (2006).

### **Composition**

This track is almost entirely comprised of a chopped sample which has been processed. The other component of the track is the kick, snare and hi-hat beat. In a way, this is another form of remixing. The main elements are the vocals and the distorted guitar line which have both been rearranged to create a new narrative structure.

### **Structure**

This track features more melodic development than plain repetition, as opposed to more conventional hip-hop beats where the development is provided by the rapped vocals and the beat serves more as a repetitive backing.

On two occasions, a rhythmic displacement is created by the addition and subtraction of beats from the groove. The first time (0:39), the effect is subtle because it is created and led by the vocal line, which has already been teased in a shorter, interrupted form. The drum break smoothens the transitions or displacements, and this is facilitated by the fact that the same drum break was introduced 4 bars earlier (0:28). Both of these elements become part of the listener’s expectations, though when they are repeated, they are further developed and varied, creating tension in a more subtle and uncertain manner. The phrase readjusts itself to the original metric pulse at the end of the 8 bar phrase (which is in fact 7 bars and 3 beats long), with the use of a stutter break (0:59).

The second time, a similar displacement effect is created, this time by removing a beat (1:38). This is facilitated by a stutter effect on the guitar line. The beat readjusts as well, using the same vocal sample progression as the first displacement (1:59).

This track showed how rhythmic displacements can be created in a more smoother fashion, by integrating them in the narrative or melodic progression. By creating expectations and slightly varying them when they recur, tension can also be generated more seamlessly.

### **Samples Used**

Ifang Bondi - “Saraba”, on “*Saraba*” (1982)

## “Loop No. 2”

(6:33) - 114.77 bpm

### Concept

This track explores the compositional considerations of working with strict repetition.

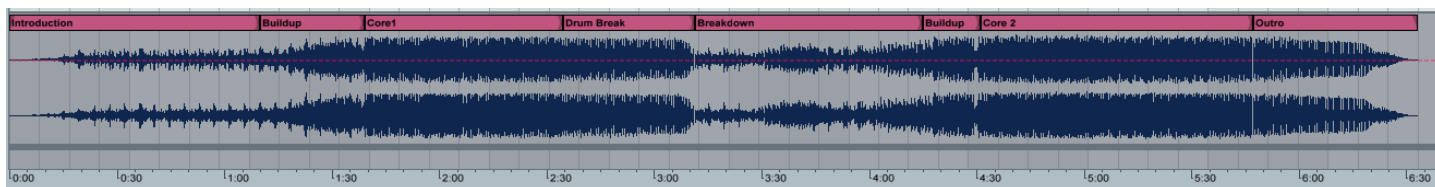
“Loop No. 2” is inspired by Moomin’s minimal productions, particularly the *Time Circle* EP (2014). His approach is based around stark repetition, revolving around a single hypnotic loop. The goal of this track was to experiment with the use of very few minimal parts, while still maintaining interest and creating tension.

### Composition

I started the piece with a composite two bar piano sample, looped over the track and processed using a flanger, filters and an aural exciter. Low-pass filtering was essential in developing the groove: as the filter opens progressively, more harmonic information is introduced, from simply the low end of the chords (0:50) to the full melodic statement (1:40). The bassline follows the piano sample and is also filtered in a similar fashion to the main loop, creating the illusion that both parts are from the same source. The beat is equally simple, comprised a kick, rim, hi-hat and filtered percussion groove.

### Structure

The track’s structure is as follows:



Once the main core was composed, I performed several live takes using Moomin’s track as a loose guideline for the structure. While performing the piece, I tweaked the sample effects as well as reverb and echo effects applied to the master output, creating subtle variations but also larger, easily noticeable breaks. I chose the second take and added a few edits, notably some drum breaks (2:04, 4:30). The different sections in Moomin’s “Loop No. 1” are 16 or 32 bars long, following a

more common approach to structuring. However, the sections in my track aren't as rigid. As I performed the piece live, some of the sections are longer, for instance the introduction is 34 bars long. Although the track is edited, I preferred to leave the extra bars in as I felt the expressiveness of the performance added more spontaneity. This is similar to Mad Rey's dub mixes (2015), which also feature non-pure duple section lengths.

During the second core, I wanted to experiment with the notion of expectation. The track so far only revolved around the single loop, and as the drive and pull was beginning to decrease, I introduced a second sample (5:03), half a bar long, from the same source, producing an abrupt variation and surprising the listener.

This track shows how working with very repetitive elements can actually allow the producer-composer to experiment more freely with notions of entrainment and expectation. It also shows the role of subtler variations in maintaining the interest of the listeners.

## “LatCrunch”

(5:48) - 111.97 bpm

### Concept

This track explores how EDM structures can be constructed from a mixture of live mixer takes and editing. It also examines the notion of metrical dissonances in the form of displacement phenomena.

### Composition & Structure

“LatCrunch” started out as a two bar loop, which was then performed and developed in a live take. The original take was much longer and I proceeded to edit out repetitive sections that would’ve been too redundant. The edited sections are in pure-duple lengths (four, eight or 16 bars long). This results in a less spontaneous feel to the progression, as opposed to “Loop No. 2” where the sections lengths were less rigid to accommodate the performed effects and filter movements. This track also features a MIDI-controlled multi-effects rack on the master output, including a tape effect. This tape effect modulates the gain, adding distortion and degrading the sound quality progressively, particularly during the second part of the track. This aims to further heighten the tension from a textural aspect. This is the multi-effects rack:



The first part of the track constructs the groove through an accumulative process. Every eight bars a new layer is introduced, building up in intensity. During the middle break, several effects are applied to the master, including heavy filtering, phasing and a beat repeat effect. During the performance of the track, I improvised with these effects more liberally, resulting in a longer break section. I then selected and rearranged the best sounding effect breaks.

During the second part of the track (3:08), the snare layer plays on its own, creating an ambiguity in the relationship between the beat and the off-beat. When a second kick drum pattern comes in (3:16), a metrical dissonance occurs as the strong beat (the 'one') is one quarter of a beat later than the first kick drum pattern. An accumulative process similar to the one in the first section then occurs and as the different parts re-enter the groove, the listener's interpretation of the beat/off-beat relation is constantly challenged. Before the first kick drum pattern replaces the second one (4:42), there are several moments when the listener's perception of the position of the strong beats can change. This becomes a subjective matter. In my case, the interpretation becomes ambiguous with the reintroduction of the lead guitar line (4:08), whereas for my tutor it was much earlier, with the reintroduction of the bass (3:41).

This track demonstrates how the interpretation of metrical dissonances and ambiguities are subjective to each listener. It also shows that improvising with different parameters can lead to new ideas, though a lot of spontaneity can be lost in the editing process. The best results come from improvising with a specific goal in mind.

# “BDLW”

(8:52) - 128.39 bpm

## Concept

The track explores structuring as a performance, a method commonly used by various producers and explained by Butler (2006, p. 207) and Theo Parrish (Red Bull Music Academy, 2017).

This method was also inspired in part by Richie Hawtin’s live performances (Bougaïeff, 2013), although his sets are built around the development and improvisation of pre-composed structures, whereas this track tries to devise a structure through improvisation.

## Composition & Structure

This track was composed in a similar manner to the rest, starting with a main groove comprised of different rhythmic and melodic elements. I then performed several different takes of the track before developing a general idea for the structure. Instead of simply recording the MIDI tracks into the Arrangement view however, I wanted to find a closer method to the one discussed by Parrish and Butler.

This involved separating the Ableton Live Session view into a sequencer part (representing hardware sequencers, samplers and synthesisers) and a mixer part (representing an eight-track mixer):





I routed all the different instrumental parts into seven mixer groups, leaving one channel for the reverbs and effects. This forced me to approach the performance of the track differently, as I had to commit to the audio takes rather than being able to edit and correct the MIDI performances afterwards.

I performed the track, fading in instruments, filtering, triggering different sequences, tweaking the master channel effects rack as well as performing a piano solo. The solo is rather simple due to the fact that I was also performing the sequences but I tried to include fragments and call-backs to the other melodies of the track, particularly the guitar pad (6:14). I ended up with eight audio stems which were then mixed.

Although I tried to construct the sections in pure-duple lengths as much as possible, some accidents have occurred, which have produced interesting outcomes. For example, the drops at 3:30 and 4:15 occur four bars later than expected for the former and four bars and one beat later for the latter. This has the effect of playing with the listener's expectation, similar to "Loop No. 2" (p. 27) though in an even more spontaneous and surprising manner.

This track is the best example of achieving spontaneity in the formal development of EDM tracks. By having a relative idea to the overall structure but still leaving room for improvisation and accidents, I produced a track that flows more smoothly while still maintaining the defining repetitive features of EDM.

## 4. Discussion and Conclusion

The primary research question of this project was to ask what is the aim of EDM structure, what is it trying to achieve? This portfolio of practice based research has shown how the essence of EDM tracks lies in their structure, whose aim is the development of a groove over a longer period of time, ranging from a single track to an entire DJ set. Repetition and variation are fundamental tools in generating tension within a track. Managing tension and release is furthermore crucial in creating an emotional connection with the listener and inciting an interaction (i.e. physical movements, dancing). The producer-composer can do so by playing with the listener's expectations, which range from his knowledge and familiarity with the music style to his perception of the current track. Consequently, this is a subjective matter, relying as much on cultural considerations as musical ones. This conclusion also applies to the notion of trance states.

The producer has several known methods to play with expectations and manage tension, such as large frequency movements and large changes in space and ambiance, but also more importantly through rhythmic processes. These include metric dissonances, ambiguities and other rhythmic displacements which surprise the listener and incite him to reinterpret the rhythmic information he hears, thus soliciting an interaction from his part. Tension and interest can also be generated using more subtle variations as well, notably by tweaking effects and ambiances, providing a more natural flow to the tracks.

Spontaneity and improvisation can be useful tools in creating tension. The most effective way of achieving spontaneity is through playing, or interacting with the sounds in a tactile manner. This can result in sample material, constructed phrases or even larger sections and longer formal guidelines. Finally, there are similarities in the processes which appear on the micro and macro levels: rhythmic displacements (be it PDs in the groove or larger metrical dissonances), multiple rhythmic interpretations (ambiguities) and the generation and perpetuation of drive, tension and interest.

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