Rhythmic and Formal Analysis of Electronic Dance Music: *House and Drum ‘n’ Bass*

by

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Abstract

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Electronic dance music flourishes through an efficient balancing-act of audience perception and expectation, facilitated by two main musical components: rhythm and form. Rhythm creates small-scale musical events that ripple throughout the work, and can create a unique musical identity based on the construction of the pattern. Form acts on a far larger scale, and ties the work together through repeated phrases that consist of both strong rhythmic groupings and supportive melodic lines.

These rhythmic groupings, otherwise referred to as beat patterns, are short, repeated patterns that act as the vital driving component to the track, also known as the groove. Percussive instruments create the framework of the beat pattern, and the exact placement of these particular sounds in the measure influence the perception of subgenre in electronic dance music. Over time, these beat placements take on a tradition of their own, which then create rhythmic pathways that producers and artists navigate for their audience.

Complexity begins to develop from the beat patterns when the traditional mold is broken. Slight variations in the patterns can create entirely new perceptions to the audience, where subtlety is a very powerful tool. Audience expectation can be thwarted by moving a beat within the pattern forward by an eighth note, changing a percussive sample or sound in the pattern, and adding layers of subdivision below the shortest duration. All of these elements can vary by their overt presentation in the texture, which ultimately leads to the perception of complexity in the beat patterns.
Larger-scale organization through formal construction acts alongside the smaller-scale groupings of beat patterns. In electronic dance music, form can be presented as simply as a traditional verse/chorus form with expected lyrical repetition. Situations can arise where a vocal component is left out, which leads to the conventions of the verse/chorus form shifting to an introduction/breakdown form, where many of the same properties are shared. In other cases, form is far more loosely defined by organically-shifting instruments and samples that lack a consistent phrase-structure within.

The thesis explores the musical backdrops established by rhythm and form, and how the two components define small- and large-scale construction in the tracks to follow. Eight tracks are analyzed within two subgenres of electronic dance music: house and drum and bass. The analyses read as analytical vignettes, not intending to answer a question, but merely set forth one interpretation. Through the interpretation of each work, rhythm and form are starting-off points that allow the analysis to flow into track-specific territory. The intention is not to define one method of analysis to understand electronic dance music, but rather to explore the outcome when audience expectation and artist creativity are allowed to influence one-another in the unique digital realm.
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**Introduction:**

Electronic dance music is a blanket term for music that is conceived of and produced through the usage of electronic technology. Typically, these technologies take the form of synthesizers, drum machines, sequencers, and samplers (Butler 2003, 22). At its conception in the late 1970s, Disc Jockeys (DJs) used record turntables to both perform pre-recorded *tracks* and also weave in their own recordings to create *mixes*, or combinations of the two.¹ As the name would imply, these tracks were intended to be performed in a dance hall, though not all electronic dance music is necessarily intended for this live performance (McLeod 2001, 2).

Electronic dance music holds strong ties to communal music appreciation that began with early recorded rock and roll in the 1950s. Discotheques emerged in American cities in the early 70s, though they took a significant fall in the latter half of the decade. This was due to a number of factors, including a commercialization of disco that ultimately alienated some consumers of it and pervasive homophobia and bigotry that surrounded the music and its performance venues (McLeod 2001, 4).

Electronic dance music’s origins are found in disco and the discotheque, as the genre took its first strides through underground performances in garages and small clubs. Some of the initial electronic performances became coined as “garage” and “house” due to the name of their venues. As new venues emerged, new subgenres were formed that explored tempo, sampling, and production. Thus began the official start to the innumerous number of subgenres that would become an unstoppable musical force in the electronic dance world.

¹ “Track(s)” is a common term in electronic dance music literature to describe songs or musical works.
Subgenres themselves can be far removed from their electronic dance music cousins, or share many common similarities. House and deep house for example, both share the same basic drum pattern, called the “four-on-the-floor” beat. Where the two are different, however, is in the general formal plan. Deep House is traditionally known to neglect a specific kind of climactic moment in the track (known as the breakdown), whereas house can explore this option. These are not rules, but guidelines encouraged by appreciators of electronic dance music. McLeod notes that this can seem like a sort of “gate-keeping mechanism,” which puts pressure on the listener to provide their personal knowledge to gain ‘cred’ in the electronic dance music scene. McLeod provides an exhaustive list of subgenres that does provide some insight into the explosive effect that labeling can have, though the analytical prospects can delve deeper than credibility alone (McLeod 2001, 2). While credibility through genre-authenticity is important, the ways with which artists produce tracks that do not follow the established molds creates interest for the listener.  

The goal of this project is to explore two main subgenres of electronic dance music: drum and bass, and house. The analytical exploration provided here explores many different components of this music, such as rhythm, melody, harmony, tempo, form, texture, intensity, and cross-genre implications. In a sense, each analysis will take on a narrative, drawing from my own personal

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2 Within musicological discourse, genre and style are often two comparative terms that generate categorical distinction and identify similarities between different works (Moore 2001, 432). Allan Moore’s work highlights a number of entries into the discussion from authors within the discipline of musicology and popular music study. Jeffrey Kallberg and John Fiske both take the approach that reveals genre as a guide through the listening experience, influencing expectations by activating a memory response developed by the assertion of similar works. Leonard Meyer and David Cope both note that style, on the other hand, is “a replication of patterning” that becomes recognizably similar between works by related composers. While style relates to electronic dance music through the use of similar samples and repeated formal guidelines, the specific use of genre is directly empowered by the expectation of the listener, which plays a heavy hand in the perception of electronic dance music performances. Both categorical distinctions are effective in discussing the nuances of the genre as a whole, though subgenre will be the main term in the work to follow.
interpretation alongside collected data. Each chapter includes a preface that provides brief historical context, a discussion of the main beat pattern of the subgenre, and four analyses that hold both singular narratives and larger-scale references.

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3 Each analysis will feature small-scale figures notated through MuseScore, with Sonic Visualizer providing examples that could not be shown properly through traditional notation. Variations Audio Timeliner provided all of the large-scale formal diagrams, with InkScape allowing for some freehand drawings.
Chapter 1: Drum and Bass

Prologue: An Introduction

The tracks discussed in this chapter span the last 25 years, from 1993 through 2016. The main objective of the discussion is to bring attention to important features with each individual track, and possibly draw larger connections between other works within drum and bass. Characteristics discussed range from rhythmic elements of the breakbeat drum pattern/groove, harmonic and melodic features of the synths and vocal samples, and other formal procedures that define the construction of each individual track.

Section 1: Historical Context

Drum and bass is a sub-genre of electronic dance music that is defined by strong common-time rhythmic patterns using a variety of drum, synth, and audio samples. Tracks that are produced within this sub-genre typically feature a relentless attention to metrical subdivision, with many driving eighth and sixteenth-note beats at an exuberant tempo of around 160-180 beats per minute. The main rhythmic force within these tracks are continuous series of drum samples referred to as the breakbeat.

In his 2003 dissertation, Unlocking the Groove: Rhythm, Meter, and Musical Design in Electronic Dance Music, Mark Butler provides a brief historical context surrounding the conception of drum and bass: “The 1990s, however, saw considerable diversification within EDM. One of the most significant developments of the first half of the decade, for instance, was jungle/drum ‘n’ bass, a style that combines accelerated drum patterns (breakbeats) sampled from
the percussion-only sections (“breaks”) of old funk records with half-tempo bass lines influenced by reggae.” (23) These breakbeats generally originated with live percussion, considerable syncopation, and expressive timing that was initially only possible through sampling live instruments (Butler 2003, 23).

In an entry from Grove Music Online, Dale E. Chapman’s article on the previously mentioned breakbeat provides additional context surrounding the beginnings of drum and bass. DJs such as Kool Herc and Grandmaster Flash utilized ingenuitive techniques during 1970s hip-hop for dancers at parties in New York’s South Bronx. Herc and Flash created a setup that consisted of two turntables and an audio mixer, which allowed them to produce seamless rhythmic grooves. Justin Williams notes that Herc’s technique developed out of positive audience reception to certain musically-percussive fragments from Latin-tinged funk. These percussion “breaks” would be repeated in a “Merry-go-round,” which created a “continuous flow of breakbeats, one after the other” (Williams 2011, 7). Dale Chapman adds to this discussion by noting that “segments chosen from these recordings would often consist of the “breakdown,” or simply the “break,” a section of a funk or disco recording in which the vocalists, horn section, and other instrumentalists would cut out in order to foreground the rhythm section” (Chapman 2012).

There is a clear unifying presence that pervades these authors’ text, which is a clear highlighting of the “breakbeat” or “break” pattern that holds significant importance towards drum and bass production and mixing. While many breakbeats are found in drum and bass, one particular example carries the most historical-weight and can take almost all of the credit for the actual creation of drum and bass as a whole. Once more, Chapman has this to say about this specific breakbeat pattern:
“Outside of American hip-hop culture, a single breakbeat known as the “Amen break” served as a crucial building block in countless tracks from the 1990s British dance music genre of jungle/Drum ‘n’ bass…In contrast to the conventional looping patterns used in hip-hop production, jungle producers spliced, segmented, and reordered the components of the “Amen break” to produce elaborate, seemingly improvised rhythmic patterns, generating maximal results with a remarkable efficiency of means” (Chapman, 2012).

The Amen break became the most influential rhythmic hook in arguably all of drum and bass’s and electronic dance music’s history. This sample comes from late 1960s R&B group, The Winstons’s, with their album Color Him Father. In fact, the specific track that was sampled, “Amen Brother,” is on the B-side of the record, immediately following “Color Him Father” (which won a Grammy for best R&B song). The drummer for the group, G. C. Coleman, is responsible for this seven-second breakbeat pattern that has now been endlessly sampled for almost half a century. According to Bruce Eder, “Coleman’s drum break in ‘Amen, Brother,’ became one of the most frequently sampled pieces of music in hip-hop and several styles of electronic dance music” (Eder 2018)

![Figure 1: Amen Break Notation, with bass drum on the bottom, snare in the middle, with hi-hat on the top](image)

The “Amen break” by Coleman is the standard that governed the musical direction of the drum and bass scene. The prototypical model for later breakbeats (not just ones that are sampled
from early r&b and hip-hop tracks) follows the similar model of kick, snare, and hi-hat (fig. 1). The basic rhythmic progression features a kick drum on beat 1 and the “and” of beat 3. The snare drum first hits on beat 2, which then leads into a staggered set of sixteenth notes occurring on the “and” of beat 2 and the second sixteenth of beat 3, and finally landing on beat 4 to finalize the pattern. A hi-hat continues to tap steady eighth notes, against which this pattern unfolds. The only deviation from this pattern occurs in measure three, where Coleman maintains the same initial snare pattern, but staggers the beat 4 entrance by an eighth rest to create a sense of ‘break’ within the breakbeat. The kick drum also does not occur on beat 1 in the final measure of the breakbeat pattern, causing measures three and four of the pattern to feel like one larger connected two measure grouping.

*Deviations*

The model is commonly altered with slight deviations in the placement of kick and snare hits within the pattern. While the rhythmic activity around beat three is almost always preserved, certain tracks play with the snare and kick drum placement, or even add new hi-hat samples to create a familiar, yet developed sound.⁴ The artists’ decision to create a specific eighth or sixteenth-note subdivision underscores the ways individual rhythmic designs can deviate from the standard breakbeat pattern. In many cases, the eighth-note subdivision is preserved in terms of the original “Amen” break, but in other cases, the sixteenth-note subdivision can create a greater sense of urgency and tempo.

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⁴ A developed sound here is referring to new cymbal samples that add the otherwise basic eighth-note hits of the “Amen Break” model. Closed hi-hat samples or ride cymbals are used in later examples to add variety besides the kick and snare drums.
For example, WRLD’s *By Design* (Fig. 2) features a simplified version of the “Amen” break by placing regular snare hits on beats 2 and 4 along with a kick drum placement on beat 1, and the “and” of 3. Removing the snare pattern of the “Amen” break creates a starker breakbeat, though the rhythmic intensity is still preserved by replacing the snare hits with a different-toned cymbal, notated by an ‘X’ on the fifth line on the staff.

By contrast, another breakbeat pattern found in Muzzy’s *Crescendo* is representative of entirely different sub-genre, called “jump-up drum and bass.” In this sub-genre, the breakbeat used in the climactic portion of the track tricks the listener by moving the second kick drum back to the fourth sixteenth of beat 2 (Fig. 3). Instead of the kick drum creating motion towards a beat 4 snare (as seen in the “Amen” break pattern), it moves towards an open hi-hat on beat 3. The open hi-hat arrival creates a feeling of suspension before arriving on the expected snare hit on beat 4. This “jump-up” pattern contrasts the “Amen” break model most clearly through its lack of rhythmic drive with long quarter-note subdivisions. Despite the displaced kick drum beat enhancing the open

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5 The expectation here is of the original breakbeat pattern from the “Amen Break,” though this time stripped-down to a more skeletonized version that is heavily referential of the original.
hi-hat instead of the snare drum, the “jump-up” pattern contains referential nods to the original by the backbeat snare hits on beats 2 and 4, with strong kick drum placement on beat 1 of every measure.

![Figure 4: “Four-on-the-floor” drum pattern commonly found in the electronic dance music sub-genre, “house”](image)

This beat pattern found in this particular sub-genre begins to resemble a “four-on-the-floor” style, which is aptly named for drummers depressing the foot pedal on the bass drum four times per measure, commonly found in house-style tracks (fig. 4) (Butler 2003, 86). The lack of sixteenth-note motion in the four-on-the-floor beat pattern, with clear arrival points of the snare on beats 2 and 4 shares a large commonality with the Jump-Up pattern. The notable difference in the jump-up pattern is the staggered placement of the kick drum, creating a unique, and yet familiar, rhythmic intensity around beat 3.
Figure 5: Variations and Peak Graph Analysis for Omni Trio x Foul Play’s “Renegade Snares” (1993)
Section 2: Analyses

Omni Trio’s “Renegade Snares” (1993)

Omni Trio’s “Renegade Snares” is an early example of drum and bass that samples the “Amen” break in creative ways to establish a baseline ‘groove’ that is developed throughout the track. Whittall (2013) describes the groove as a “vital drive or rhythmic propulsion,” which then grants a certain kind of objective grounding to the track (Whittall 2013). The groove itself is a small-scale entity that, in “Renegade Snares,” plays an important role in how larger-scale formal boundaries are constructed.

A “groove pattern” is a larger-scale formal boundary that is established when contrasting sections create a noticeable change in groove fidelity, texture, sample usage, or tonality. Groove patterns are uniquely defined retroactively to the listener, relying on an already pre-existing groove ‘section’ and a contrasting passage that follows. Once the groove returns after the contrasting passage, the listener can now observe formal boundaries and a groove pattern is firmly established. In a more traditional sense, this can be easily attributed to an ABA form. Two separate groove patterns occur over the course of Renegade Snares, with the second pattern featuring a slight variation of the groove (Fig. 5).

In Renegade Snares, an introduction is established which contains the “Amen Break” groove. This is a self-contained 8-bar grouping (0:00 – 0:24) that provides all the necessary information to know this is a drum and bass track: The classic double eighth-note kick drum that

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6 Something important to make note of immediately in regards to Omni Trio’s Renegade Snares is that I will be analyzing the “Foul Play Remix” of 1993, instead of the original mix.

7 ‘Section’ in this sentence is referring to a groove that has been established, and repeated to make up one complete period, generally made up of two distinct phrases. This precedes the contrasting passage, and provides a stable point with which the track can develop.

8 In this same example, the groove can be substituted for something more traditional like a melody or tonal area.
occurs on beat 1, slightly open hi-hat sound with constant eighth note beats, and rhythmic intensity occurring around beat 3, with regular snare hits on beats 2 and 4. There are many musical elements that separate this from the prototypical “Amen Break” model, though some of these key characteristics establish a drum and bass rapport from the start.

After this brief introduction, a 24 bar groove pattern is established that entails a series of textural developments based on the aforementioned 8-bar grouping of the introduction (0:24 – 1:35). A basic pattern is provided at the start of the first ‘groove’ section (0:24 – 0:47), which is developed after 8 bars with a bass synth that then pervades the rest of the track (0:47 – 1:11). Finally, in the third 8-bar grouping, a vocal sample is added that emerges in key moments throughout the track (1:11 – 1:35). This first complete groove formal section allows the texture to procedurally develop, creating the content that Omni Trio (and Foul Play’s remix) musically vary over the course of the work.

Omni Trio x Foul Play’s remix creates a sense of form that is unique to this track, contrasting other drum and bass works that instead focus on longer textural explorations without a sense of the formal divisions found in “Renegade Snares.” The track fluctuates between groove-based sections and what I have defined as bridge and variation-groove sections in the formal analysis shown in Figure 5. Both formal sections feature unique characteristics that provide contrast against the main groove pattern of the track.

Trevor de Clerq (2017) refers to the bridge in traditional verse/chorus pop/rock music as having “unstable harmonic content, beginning off-tonic and ending on a dominant-functioning sonority,” which typically precedes a chorus and has transitional function (de Clerq 2017, 2, 11). De Clerq’s formal definition of a bridge in pop/rock music directly relates to the usage of bridge in Renegade Snares. The passage still serves a transitional purpose, and contains unstable
harmonic content. Each bridge features a repeating piano melody that follows an E Mixolydian mode (1:35 – 1:58 and 4:08 – 4:32), with particular emphasis on bass motion from [A, E, F#]. This bass motion contrasts a more traditional build by lacking tonality or a dominant-sonority focus, though what it does provide otherwise is a pitch-based contrast to the driving motor-rhythms of the initial rhythmically-enhanced groove.

The variation-groove presented above (Fig. 5) shares many commonalities with the rhythmic profile of the main groove. In fact, the underlying beat is exactly the same as it appears in main groove pattern sections, though it now features an audio or synth sample that completely changes the feel of the groove by bringing another unexpected element to the foreground. We are presented with a slight variation of the main groove pattern, which then creates a new aesthetic around an already established musical profile.

The second and third instances of the groove section feature a sub-group labeled as ride cymbal, which I felt carried an interesting weight in terms of the particular sound sample being used. The first basic pattern (0:24 – 0:47) features a familiar sounding ride cymbal sample, perhaps emanating from Coleman’s break. Once the bass enhanced sub-group arrives, the ride cymbal sample disappears, leaving the familiar Coleman aesthetic behind. The ride cymbal sample though enters regularly in these second and third instances of the main groove sections, and creates a similar aesthetic to the former (2:45 – 3:09 and 5:19 – END). Furthermore, this ride cymbal sample enters in the final sub-group of the variation-groove mentioned in the previous paragraph. This adds further narrative to that formal section as being familiar, yet also distinct in the wildly different sound world created by the audio/synth sample (3:33 – 3:56).
The secondary component to Figure 5’s graph is the peak graph, which attempts to show musical intensity against the formal diagram. The peak graph shows relatively stagnant motion from the start of the introduction, with only a slight increase in intensity throughout the first groove formal section, which is mostly due to slight variation in the texture. The final few seconds of the vocal sample sub-group include a sweeping synth sample, which generates quicker attack rhythms into the bridge (1:33 – 1:35). The reduction in texture can be seen through the spectrogram in Figure 7, in which the downward sweeping synth lines can be seen directly in the middle of the figure, with the reduced texture being the start of the piano melody sub-section that begins the bridge (1:35). The peak graph line is relatively stagnant and at a lower level of intensity throughout the first sub-section and half of the second. In this second sub-section of the customary build (2:10), a vocal sample begins to grow in dynamic volume, pan between both the left and right hand
speakers, and also go from a vocal melisma to a shorter melodic idea. All of this gradually increasing intensity back to the beginning level of the main groove (2:22).

![Figure 8: Textural density between the second “Groove” and “Counter-Groove” (time shown between 3:02 – 3:17)](image)

The remainder of the peak graph is relatively straightforward, with the exception of the variation groove section discussed above. While in the first groove to variation section, there was a significant drop in intensity and a rebuilding towards the starting point, the piano melody subsection features a sweeping synth that falls into empty space and an isolated texture. A sweeping synth is still present at the end of the ride cymbal sub-section (around 3:07-3:09), though there is no break in the overall pattern and the intensity is carried through into the “Melodic” sub-section at 3:09. The Peak graph represents this continued intensity, through to the “Ride Cymbal” subsection of the “Counter-Groove,” where the same reduction of intensity occurs as with Figure 7. A visual representation of this continued intensity can be seen in Figure 8.
The Peak graph of *Authentic* seems devoid of any real change: This is intentional due to the lack of defined formal structures, with the track rarely straying from the motor rhythm establish from the beginning.

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9 The Peak graph of *Authentic* seems devoid of any real change: This is intentional due to the lack of defined formal structures, with the track rarely straying from the motor rhythm establish from the beginning.
Break “Authentic” (2006)

Break’s Authentic is another example of an earlier drum and bass work that strongly contrasts Foul Play’s Remix of Renegade Snares with one major aspect: the form. The formal elements of Authentic are entirely based on one large continuous repeated groove, a perfect example of DJ Kool Herc’s “Merry-go-round” technique. Overall, this creates a series of subgroups in the formal sphere that lacks any sectionalized independence (such as verse, chorus, bridge, etc.). The main difference is that this textural development is incredibly subtle, and at times almost indistinguishable from its earlier parts. In this situation, I have had to use a relatively complicated labeling system on the Variations Timeline formal analysis (Fig. 6). Typical alphanumeric labeling is present, with numbers to show altered forms (1 being the first prime form, 2 the following, etc.)

![Figure 10: Fundamental breakbeat pattern of Break’s “Authentic”](image)

An introduction, labeled as groove in the Variations analysis first establishes the tempo along with some drum samples that texturally develop into the fundamentals of the breakbeat pattern (0:00 – 0:22), whose arrival at 0:22 begins the complete pattern seen in Figure 10 above. One major difference between the breakbeat pattern of Renegade Snares and Authentic is the continuous rapid-fire sixteenth-note subdivision on a closed hi-hat, almost like a motor with its defiant rhythmic drive. Snare hits occur on beats 2 and 4, with an uncommon kick drum pattern to

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10 DJ Kool Herc’s “Merry-go-round” technique is defined as a “continuous flow of breakbeats, one after the other.” He achieved this effect by using “the same breakbeat on two copies of the same records, alternating the two to create a continuous instrumental flow.” (Williams 2011, 7)
accompany it. Kick drum beats are on beat 1, the fourth sixteenth of 2, and the second sixteenth of 3. The sixteenth-note kick drum beats in the breakbeat pattern of Authentic create a different feel overall by simply changing where the sample is placed within the measure. These are the main proponents of the breakbeat found in Authentic, though there extra percussive elements that add to these main set pieces. Again, this is an example of slight variation through a different sixteenth-note subdivision, and slight change to beat placement or sample usage.

To make some sense of the overall sections within Authentic, I had to explore how subtle changes within the sub-groups act against the motor-rhythmic breakbeat. The paragraphs that follow will delve into these minor textural additions and subtractions by following some key samples that define or create unification through their dismissal and arrival. Having the audio sample alongside this analysis will greatly add to the written analytical interpretation.

The A section (0:44 – 1:06) is defined by a particular ride cymbal sample that almost sounds like the Amen break cymbal used by Coleman. This sample wouldn’t be out of place whatsoever, especially in earlier drum and bass tracks that clung much more heavily to pre-recorded live drum sessions, rather than production of new sounds through other digital means. All A sections that follow (1:28, 2:12, 3:19, 4:03, and 5:10) have this ride cymbal throughout, which creates a sense of formal cohesiveness whenever this occurs.

In this sense, I can begin to draw a larger-scale form that is defined by small textural fragments that phase in and out with specific textural additions and subtractions. In this specific situation, the ride cymbal sample creates this formal grounding between all repeated A sections. By contrast, B sections (entrances at 1:06 and 4:25) are characterized by a particular lack of this ride sample, and instead are a simplification of the former; C and D sections also lack the ride cymbal and use ominous audio samples and vocal samples that act as melodic components in a
sound world almost entirely devoid of any pitch content (C sections enter at 1:50 and 3:41, with D sections at 2:57 and 4:47).

A sections themselves begin to take on a musical journey as more elements are introduced from other sub-groups, systematically taken away, and then re-introduced as entirely new ideas in future A groups. All of the elements are derived from new formal sections that must occur first before the A1-3 sections can gain the influence from the previous. With A1 as an example (1:28 – 1:50), a strange audio sample is added to create a sense of change from the original A section (0:44 – 1:06). The ride cymbal sample is present along with all the other elements that form the groove, which are acting as stabilization points that allow subtle ideas to create larger change. The section that follows immediately strips away the ride cymbal and adds a vocal sample, which then necessitates a new formal distinction of C. The A2 section (2:12 – 2:34) takes form with the introduction of this vocal sample that begin in section C that came before it (1:50 – 2:12). This needs to be differentiated from A1 (1:28) because it does contain elements that are from the stable groove, yet also now features this vocal sample carryover.

An important formal moment occurs just after this A2, which I have labeled as basic groove (2:34 – 2:57) in the Variations Timeline analysis. Throughout the first half of the track, many events have occurred to create formal change: elements have been added, stripped away, and then re-introduced in such a way to create different textural and formal distinctions with relatively little new composition. The basic groove strips everything back down to the basic elements, which contain only the bare essentials to the breakbeat: the kick, snare, and hi-hat samples (along with a few non-essential percussive instruments).

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11 Groove in this scenario is referring to the breakbeat pattern along with the other percussive and extra-musical samples that aid in the overall rhythmic feel of the track.
From this point forward, the previous textural developments take a wild turn into new formal sections. The basic groove block almost separates the track into two distinct portions: One that contains five formal sections between 0:44 and 2:34 and another that contains seven sections, beginning at 2:57 and ending at 5:32. The narrative unfolds in such a way that *Authentic* is beginning with a basic groove idea, creating new formal sections, and then developing the basic idea with these new introductions to create a slow and continuous drive forward.

The second set of formal sections after the basic groove begins with a D section that brings about a strange new audio sample, almost frightening in its other-worldly aesthetic (2:57 and 4:47). These D sections are extraneous elements in this formal narrative, and without these sections, there would be a perfect reflection around the basic groove, with [A – B – A1 – C – 2] relating to [A3 – C1 – A2 – B – A2] (minus the D sections that are in Figure 9).

All of this comes to a final halt with what I have labeled as altered groove (5:32 – 5:54), which contains a very stark breakbeat lacking in rhythmic drive. The only drum samples that remain are the kick and snare drums, now only accompanied by the ominous and distorted audio samples from previous sections, though most notably the D section’s harrowing audio sample. Given this, it would seem as if *Authentic* transforms the initial groove in two distinct ways: One transformation that is entirely devoid of non-percussive elements, and another that loses the prevailing sixteenth-note subdivision and shifts the focus to the audio sample above the drums.

I will assert that there is a musical development occurring across the span of *Authentic*, each of which is connected by an instance of the aforementioned ride cymbal sample. This musical development is perpetuated mostly by subtle textural additions and subtractions over sub-groupings that are connected by the same general breakbeat pattern. Break’s *Authentic* provides
an example of a groove-based form that can be identified as drum and bass by only its tempo and rhythmic pattern, not by the formal analysis or any other harmonic or melodic components.
Figure 11: Variations Analysis with Peak Graph for WRLD’s By Design (2016)
WRLD “By Design” (2016)

WRLD’s By Design was released in 2016 and presents a sonic world quite different than the previous examples. The most significant change is focus on a chorus that establishes a traditional chorus-centric form more clearly through repetition of a vocal track. In both Authentic and Renegade Snares, vocal samples are used primarily as instruments or to establish textural development. By contrast, within By Design, there is a significant vocal part that carries a melody. Due to this important vocal part, By Design takes on a more familiar verse/chorus form from pop/rock music. De Clerq (2017) defines the lyrics of a verse as “typically [changing] each time its music reappears,” whereas a chorus will typically not change its lyrical content (de Clerq 2017, 2). In By Design, the lyrical content repeats two separate times, and the content remains exactly the same with only musical alterations, fitting within the chorus paradigm, as seen in the Figure 11 (0:22 – 0:44 and 2:12 – 2:56).

The form is therefore divided into two main categories: a combined chorus/build section and the climactic breakdown section, which the chorus/build carry momentum into. The build section features a main similarity to the bridge of a verse/chorus form in that it is transitional, but also features unique properties when compared against a traditional bridge. In a build, musical tension is progressed through rapidly decreasing durational beats, audio samples that can sweep up or downward leading towards a breakdown, or other melodic and harmonic motion. The breakdown section is typically a climactic point which is the arrival after the tension-generating content from the build, and rests on a more stable pattern.

12 While unstable harmony is more important to a traditional bridge, a build does not necessarily rely on melody or harmony to create tension. Extra-musical samples such as an equal-intensity frequency band (white noise) and repeating vocal samples can add more tension in this environment than harmony.
Along the same vein as both previous examples, there is also an introduction that establishes the tempo and general rhythmic pattern (0:00 – 0:22). The texture throughout the first half of the introduction is sparse and the frequency filter on the track is relatively narrow, creating a shallower timbre by limiting the range of frequencies that are allowed to shine through on the final ‘mix’ of the track.13

![Figure 12: Main sonorities that create the harmonic backdrop for “By Design”](image)

Once the chorus arrives at 0:22, the fundamental harmonic and melodic components of *By Design* become immediately apparent, and are a significant distinction from previously discussed works. Vocal melodies are composed around a B minor scale, which then unfolds into the B minor inflected bass of the breakdown. While in *Renegade Snares* the harmonies were more textural, sonorities within WRLD’s track ground the vocal melody above it with functional harmonic support. An E minor triad in root position moves to a B minor triad in root position, which then moves to G major, and then to an A major chord (fig. 12). In this situation, semi-functional triads are existing to create a sense of tonal unity between formal sections, simply through repetition. The triads are repeated throughout the track, and stay consistent even when the melody or background components are altered. Harmony has become a main component that acts alongside

13 ‘Mix’ is referring to the final production sound after all effects and audio manipulation has been processed.
the rhythmic beat pattern that is mostly at the foreground, and also seems to be more of a necessity when working with vocals (be it live recording or sampling).

While in *Renegade Snares* there were particular moments where the beat pattern was dropped in the bridge sections, *Authentic* carried the rhythmic backdrop throughout the entirety of the track. *By Design* takes a vastly different approach in composing out the breakbeat. After the introduction establishes the breakbeat pattern and tempo, the initial chorus and build neglect this pattern (0:22 – 1:06). WRLD pulls back the rhythmic intensity and saves the arrival of the complete breakbeat pattern for the eventual breakdown section. This causes very goal-directed motion towards the breakdown section by stripping away elements, which began as an initial expectation on the part of the listener. This greatly contrasts against the slow and procedural textural development of *Authentic*, mostly because *By Design* does what artist Break would have never done: stop the breakbeat. Textural development takes place, though the form exists on a smaller and less meticulous, but far more sectionalized level. Once the breakdown arrives at 1:06, the breakbeat pattern is once again brought in after about 32 measures without it.

Once the breakbeat has arrived in the breakdown section, the beat pattern now pervades the following chorus section to create an entirely new chorus (2:12 – 2:56). If any play on the expectation of the listener was at work in *By Design*, WRLD has given up on the ruse and provided the chorus as it was initially intended to become. Things are not entirely as they seem, because starting from 2:34, there is a reduction in the overall intensity that was previously held from the start of the “second Chorus”. This is represented in the Peak graph of Figure 10, in which the intensity level at (2:34) dips down to where it began initially at the first “Chorus” (0:22 – 0:44).

The breakbeat in *By Design*, like the others before it, is another deviation from the original Amen break model. In terms of the rhythmic content of the breakbeat, the pattern is relatively
simple in its construction. Again, much like *Renegade Snares* and *Authentic* before it, WRLD’s breakbeat in *By Design* does not use the sixteenth-note snare hits as found in the prototypical Amen model. Instead, these rapid beats are replaced by a new hi-hat that still fills in these subdivisions, creating the rhythmic intensity around beat 3 that has been present in every other breakbeat before this. The kick drum appears in the place it should be, as well as the snare hits on beats 2 and 4 (see fig. 2 for the breakbeat pattern). In the breakdown, with its multiple-voice melody and hefty bass synth, the breakbeat almost sounds like another staggered four-on-the-floor style. The main difference being kick drum being displaced, which gives the breakbeat almost as much character as the rhythmically-intensified beat 3 in the normal Amen break model.

![Figure 13: Bass melody of sub-section 1](image)

Given that the breakdown has had significant direction leading towards it within the work, WRLD utilizes this emphasis and composes out a distinct breakdown section with three unique sub-sections. The timings of these sub-sections can be noted with arrows on Figure 11, first occurring between [1:06 – 1:28], [1:28 – 1:50], and [1:50 – 2:12], mirrored in the second breakdown with different timings. The first sub-section at 1:06 features the fully realized breakbeat pattern with a slightly distorted vocal sample of “Follow the river” from the chorus at the same pitch level. High-pitched chordal collections with bright tones and a lengthy decay sound over the driving breakbeat to create an open aesthetic to breakdown. The lead melodic component is found in the bass, which contains four distinct pitch collections, repeated four times throughout the first sub-section (fig. 13 above). The bass notes focus around a b natural minor scale, and is seemingly emphasizing motion from the tonic, through the submediant, and ending on the
subtonic. The rhythmic identity of the bass melody features similar characteristics to the breakbeat pattern found in *By Design*, with heightened activity around beat 3. This bass line is not newly composed music, as a version of this is already present in the second half of the intro [0:11 – 0:22], though at a far lower intensity.

![Figure 14: Bass melody of sub-section 2, with articulations to show inflection](image)

The second sub-section deviates from the model established in the first sub-section through a significantly altered bass line. While the initial bass line held melodic complexity in the pitch collection and a unique rhythmic profile mirroring the breakbeat, the second sub-section’s bass line is far more regular. Heavily articulated bass notes oscillate between octave E pitches and a final B-E leap of a fourth to end the pattern (fig. 14 above). The entire figure is finally concluded with a cadential figure that uses the same pitch collection from the initial sub-section, though in a descending scalar pattern. The emphasis on the pitch E is out of place when considering the previous b natural minor scale, though this pitch is reinforced in a very faint upper voice, which is rapidly articulating an E drone over the bass line. Half-way through the second sub-section, the words “Follow the river” are heard once more, though at an octave higher than the first instance. Except this time with a delay added to the final syllable “-er” that repeats every half-note after the first full statement.

The final sub-section returns to the original material, with the only change occurring in the addition of a higher pitched synth melody. When played against the bass from the first sub-section, the higher synth melody creates a call and answer format with each part responding to the other.
While this does create a unique soundscape when compared to the previous two entries, the material has not been altered enough to say that the breakdown has three completely unique subsections. The breakdown can be formally observed adhering to a somewhat traditional A-B-A prime form, perhaps strengthening the breakdown section’s emphasis and presence in the entire track with its well-defined musical boundaries.
Figure 15: Variations Analysis with Peak Graph for Muzzy’s Crescendo (2016)
Muzzy “Crescendo” (2016)

Muzzy’s *Crescendo*, produced once more in 2016, is a sub-genre of drum and bass titled “jump-up drum and bass.” Jump-up drum and bass’s success as a sub-genre is predicated on the already strong musical characteristics of traditional drum and bass, which have been established over more than two decades to this point. Within jump-up drum and bass, the rhythmic alteration of the breakbeat creates a unique experience from its older musical relative. Figure 15 shows the formal diagram for *Crescendo*, with the term intro taking the place of a traditional verse, chorus, and groove.

![Formal diagram for Crescendo](image)

Figure 15: Formal diagram for Muzzy’s “Crescendo”, with the term intro taking the place of a traditional verse, chorus, and groove.

This altered breakbeat pattern can be heard in the breakdown section, in which an additional kick drum is added on the fourth sixteenth of beat 2, leading directly into an open hi-hat sample on beat 3. The open hi-hat sample rings out for the entirety of beat 3, followed by a snare hit on beat 4, which is expected in the typical breakbeat model (Figure 16 for both jump-up and standard drum and bass breakbeat models). Additionally, the rhythmic subdivision established by the hi-hat focuses more on quarter-note beats, instead of previous eighth and sixteenth-note

![Jump-up pattern in Muzzy’s “Crescendo”](image)

Figure 16: Jump-up pattern in Muzzy’s “Crescendo” (above) with Amen Break breakbeat (below)
subdivisions of the Amen break model. As mentioned previously in the discussion on breakbeat deviations, this altered kick drum placement creates a much different arrival point from the usual breakbeat model. Typically the kick drum always precedes a snare hit, though the Jump-up drum and bass breakbeat found in *Crescendo* drastically alters this expectation for additional empty space occurring around the usually rhythmically-charged beat 3. It may be an analytical assumption to say that this is being done referentially to play on the expectation of the listener, though there is further evidence in the remainder of the work to suggest such an interpretation.

Within the second introduction, labeled as second intro in the Figure 15 (2:17 – 3:12), Muzzy mirrors the same sound world as the original introduction with one key difference: The original introduction (0:00 – 0:49) posited a slower, almost cut-time feel with durationally-long descending chordal synths and wobble bass motives (common in dubstep tracks). In the second introduction, the artist instead changes these wobble bass inflected portions to instead be comprised of a traditional breakbeat pattern. This pattern focuses on more rapid eighth-note subdivisions through the hi-hat sample, with rapid sixteenth-note snare and kick drum beats, commonly found in the typical Amen break model. As the analyst, I find it incredibly difficult not to hear this referentially acting against the material of the Amen break. The distinct lack of this pattern in the first introduction, with its inclusion in the second, creates a striking contrast that feels as if we are being misled as the listener.

Like *By Design*, Muzzy’s *Crescendo* takes a more modern formal approach to drum and bass production. A clear structure is laid out that incorporates all the usual sections of a modern drum and bass track: some kind of verse/chorus/introduction, a build section to generate tension, and then a final breakdown that acts as a musical climax. To reiterate from before, where both
Authentic and Renegade Snares focus on establishing a main groove that follows through with subtle textural development, Crescendo takes larger sectional leaps to define stricter boundaries.

In the build section, many elements work together that contribute to a goal-directed urgency towards the musical climax of the build. The text “rise it up like an endless crescendo” is repeated multiple times, though is sampled and shortened to create tension throughout the build, eventually falling on the single word “up” on quarter-note beats right before the break signal.14

Drum samples and chordal synths hit all at once on the downbeat of particular measures, which also shorten in time alongside the alteration of the “rise it up” vocal sample. In terms of the pitch content around the vocal sample, an F Phrygian scale is referenced with melodic motion from [F – Ab – Gb – F] (Figure 17). As the vocal sample decreases in duration, the extra pitches are cut out to leave only a drone {F} on the text “rise it up.” This highlights another key way to generate tension within a transitional section of any work, which is to actually pull back and melodic motion to stagnate and create a suspension in time.

14 “Break Signal” is a term I use to describe a momentary pause directly before the Breakdown section that could last either a measure or singular beat in length. The content ranges from a drum fill, vocal sample, or melodic instrument; the texture always drops significantly during this time.
Section 3: Afterthoughts and Conclusions

Implications for other Sub-Genres of Electronic Dance Music

The Amen break, alongside other deviations of this pattern, is a highly customizable and recognizable beat structure that serves many rhythmic or referential functions in other electronic dance music sub-genres. If an artist wishes to create an aesthetic of an old-school Jungle track from the mid to late-90s, verbatim sampling of the Amen break is an easy choice. While the Amen break holds cultural and historical value, the musical implications of its rhythmic profile can go beyond the cultural reference.

The breakbeat holds within its rhythmic profile a particularly powerful tool for any complex level of rhythmic composition. Within it consists of a built-in subdivision through the use of an open or closed hi-hat. A common part of interest within beat structures of electronic dance music comes from the creation of metrical and grouping dissonances by placing triple segments against duple counterparts. The breakbeat pattern features such a strong common time duple feel, that any metrical or grouping dissonance against this will feel strengthened through its metrical consistency in such common time (the same can be said for house’s four-on-the-floor pattern).

Apart from the metrical implications of the breakbeat pattern, drum and bass references in other sub-genres can aid in the development of tension towards climactic musical events. Drum and bass tracks are, on average, at a tempo higher by about 30 – 40 beats per minute than house tracks. In one particular house track, Galantis’ No Money, a breakbeat pattern is used in the build section to generate tension towards the eventual breakdown. Given that the breakbeat pattern has rhythmic interest around beat 3, and sometimes even continuing into beat 4, the pattern provides a forward motion through more rapid successive eighth and sixteenth-note beats. A four-on-the-
floor style, by contrast, has an incredibly rigid kick drum on each beat of the measure, with snare hits still on beats 2 and 4. The breakbeat adds more sixteenth-note-derived interest that simply would not find its way into a four-on-the-floor style in any traditional house track.

**Analytical Conclusions about Drum and Bass**

Drum and bass is, by the implication of its title, a predominantly rhythm-focused sub-genre of electronic dance music. Other off-shoots of electronic dance music carry much stronger ties to harmonic and melodic components, with house being one of the main proponents of this. Drum and bass contains elements of melodic and harmonic development to an extent, and this can be observed in many ways already discussed: Omni Trio x Foul Play Remix’s *Renegade Snares* uses chordal synths that act within the confines of an E Mixolydian scale to create harmonic motion within the relentless breakbeat pattern. In WRLD’s *By Design*, functional motion between E minor, G Major, B minor, and A Major triads coincides with a rigid metrical structure that rests underneath the rhythmic stability of the breakdown’s breakbeat pattern. *Crescendo* also uses pitch content within an F Phrygian scale that lends strength to the tension-building section that precedes the breakdown in its formal structure. While these moments contain melodic and harmonic content that is important to strengthening the overall rhythmic profile of the breakbeat, the assessment is clear that these are not driving forces within the sub-genre as a whole. The overall focus is on drums, and to a small extent, bass (not necessarily in a harmonic sense, but again, more-so rhythmic).

Compared to the four-on-the-floor pattern commonly found in house tracks, the breakbeat (with its historical roots from Coleman’s Amen break) is far more malleable and open to deviations and alterations. The only (typically) unchanging drum samples in the breakbeat is the kick drum on beat 1, and the snare hits on beats 2 and 4. Being a common time pattern, beats 2 and 4 are
reserved almost exclusively in every situation for a snare drum beat to provide that strong placement on otherwise metrically-weaker beats. Beat 3 is where the potential rhythmic play can begin: A play on both expectation and realization of musical subversion. This can be done through altering drum samples, rhythmic construction around beat 3, and even completely ignoring these principles all-together. We have seen this kind of practice occurring in every analytical example previously, where no single breakbeat pattern resembled the Winston’s model exactly. It is within these alterations that drum and bass has created an identity, a sort of monopoly on a specific kind of rhythmic profile, which goes beyond sampling Coleman’s original work.
Chapter 2: House

Prologue: An Introduction

This second chapter will focus on the electronic dance music subgenre house. The layout of the chapter will first display the historical context surrounding the beginnings of house music, with background on how the tracks were conceived of and produced. The following section will describe the four-on-the-floor drum pattern with an examination of how the pattern is asserted in house music, and a discussion on how deviations from this pattern can create new rhythmic perceptions. Four analyses follow in section 3 that will use ideas discussed in sections 1 and 2 of the chapter. These analyses will bring in unique perspectives on each track that reveal certain properties of the subgenre as a whole, while also providing information that displays my personal analytical and listening experience. The chapter will conclude with final, broader thoughts on the analyses and bring some of the individual ideas into conclusive statements. The historical context section will draw primarily from scholarly sources, while the remaining sections will derive mostly from personal analytical and listening experiences.

The final visual component of the analyses come in the form of large-scale textural diagrams, seen in Figures 15 and 17. The two tracks analyzed in this manner, 808 States Pacific State (1989) and Frankie Knuckle’s The Whistle Song (1991) contained ambiguous forms that did not fit well into the Variations Audio Timeliner format. These Variations graphs are present for consistency in the figures, but do less to show large-scale form than the Textural Diagrams displayed above them.
Section 1: Historical Context

The origin of American house music can be dated back as early as the 1970s, rising from the ashes of the fallen American disco movement. McLeod (2001) discusses this falling-out period of disco, which fell in part to its commercial peak, and also through many sub-groups of American culture who condemned it to failure through their intolerance of its predominantly black artists and gay consumers. Journeying into the 1980s, the market was open to a new form of electronic club music, and what slowly rose to underground prominence was “house music.” House’s namesake is derived from Chicago’s Warehouse Club, who’s main Disk Jockey at the club was DJ Frankie Knuckles. Knuckles initially performed records of other artists at the club, but soon began to infuse his own rhythmic backing tracks to enhance the pre-recorded 12-inch LPs, slowly creating unique mixes (McLeod 2011, 4-5).

The production of house, through technological advancements and affordability in synthesizers, ends up using largely the same instruments of its latter cousin, drum and bass. Butler (2003) discusses the financial issues when related to house music production in the 1970s, and how advances in hardware accelerated the growth of the subgenre. Initially, recording studio space was required to produce any recorded content. Shortly into the beginnings of early house, inexpensive synthesizer and drum machines were made available through the Roland Corporation, based in Japan. These machines enabled a far more economically feasible method to produce original tracks, which included the TB-303 bass line generator, the TR-808, and TR-909 drum machines (Butler 2003, 32-33). These machines were used in tandem to create the rhythmic profile of house, commonly referred to as “four-on-the-floor” style (Dayal 2013).
Section 2: “Four-on-the-Floor” Beat Pattern

The four-on-the-floor beat pattern simply contains a kick drum that sounds on every beat of the measure (Dayal 2013). Figure 1 displays the four-on-the-floor beat pattern in its most basic form, with kick drum beats on each quarter note of the measure, snare drum hits on beats 2 and 4, with consistent eighth-note hi-hat beats throughout.

The kick drum is the single most important form-defining sample to the four-on-the-floor beat pattern, and is the one component that does not change in the various tracks that make the house subgenre. As will be observed later in the analysis portion, many of the other percussion samples are altered and varied in the beat pattern, but the kick drum almost always maintain a relentless pursuit of the beat.

In the four-on-the-floor pattern, the kick drum hits lack metrical strength or weakness, leading towards no particular emphasis on any beat. What this allows for is rhythmic exploration in the other percussion samples to play against these metrically-ambiguous kick drum beats. In the model (fig. 1), the snare drum is playing on the backbeats of 2 and 4, which helps to create a sense of syncopation through these off-beat emphases. Further, hi-hat samples can either maintain a steady eighth-note repetitive rhythm or embellish on this snare backbeat. In either case, the model

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15 808 State’s Pacific State (1989) actually has a slightly varied kick drum beat, notated in Figure 16.
is not the only rhythmic profile these samples can exist in, and the examples to follow explore the ways these samples interact with the idea of syncopation.

Because of the strong duple time influence of the kick drum beats, triplet rhythms and syncopations are exceptionally effective in this environment. Figure 2 outlines some triplet and syncopated examples, and how the rhythms relate to the metronomic four-on-the-floor kick drum pattern. In the first measure, quarter note triplets sound against the four beats in the upper line and create a regularly occurring pattern on beats 1 and 3. In this instance, strong beats of the common time measure align with each start of the triplet rhythms. While the steady kick drum beats of the four-on-the-floor pattern generally hold no metrical inflection on their own, the triplet rhythms help to establish accents within the rhythmic space. This property can be seen clearly having musical application in the analysis of Pretty Girl in section 3, with Figures 12 and 13 for reference.

When dotted rhythms are added and tied together in measures two through four, the regularity found in the triplet figure completely disappears. Measure two’s dotted eighth-notes create a chain of syncopation against the four quarter notes above, arriving together on beat 4 of the measure. If the chain were to continue, the rhythmic unison would occur on beat 3 in the following measure. This can be observed in measures 3 and 4, where the tied dotted quarter-notes do indeed first arrive on beat 4, which is then followed by an arrival on beat 3.
In the common time signature, this can be explained as a backbeat emphasis on beat 4, which then acts as a weak-beat accent into the downbeat of the following measure. Though if the chain continued, this would be harder to explain. Figure 3 displays these rhythms tied over the bar line, showing each rhythmic unison in the measures on the beat they occur. Another way to observe these rhythmic groupings are as five measures of three/four time, with each rhythmic unison as the new downbeat for the measure. Due to the metronomic nature of the kick drum beats of the four-on-the-floor pattern, other meters can develop within the common time space that can be entirely plausible.
Figure 4: Variations and Peak Graph Analysis for Galantis’s “No Money” (2016)
Part 3: Analyses

Galantis “No Money” (2016)

Galantis’s “No Money” (2016) features the typical four-on-the-floor beat pattern outlined in section 1 of this chapter (see fig. 1). The first full beat pattern is sounded in the breakdown section [0:46], a familiar kick-snare combination notated in Figure 5. This pattern contains one subtle change in the hi-hat sample, which does away with the eighth note rhythm and replaces it with a subdivision of two sixteenth notes. Ultimately, this change is not enough to create a different aesthetic to Galantis’s pattern, as the persistent kick drum is an overwhelmingly powerful rhythmic determinant.

![Figure 5: Four-on-the-Floor beat pattern found in Galantis's "No Money"](image)

A competing, syncopated rhythmic profile is established at the beginning of No Money that takes on multiple instrumental timbres and combinations. The first iteration of this profile is heard through light, articulated synths that are notated in Figure 6 below [0:00 – 0:31]. Quarter notes on beats 1 and 4 help to establish a rhythmic unity with the four-on-the-floor pattern by defining key arrival points. The dotted notes found in the middle of the measure serve to propel each collection forward, creating strong arrival points on both previous beats. Silence also plays an important role in the perception of this rhythmic union, with beat 4 having significant space, only to be filled in by the subtle hi-hat sixteenth notes. It is worth noting that the first instance of the pattern sounds alone with the vocal part, and it is not until the first Breakdown that the two come together to form
this pair. Later versions of the syncopated profile feature a bass synth, steel drum, and piano samples.

![Figure 6: Notation of the syncopated rhythmic profile](image)

The combined patterns create the rhythmic energy found in the Breakdown, which carries the rhythmic motion through the first 8 bars [0:46 – 1:01]. During this time, new voices are added to the syncopated profile that enhances the timbral space and creates more excitement, thus generating *melodic* energy in a space primarily focusing on *rhythmic* energy. A steel drum and bass synth broaden this range, playing off of the expectation of the listener, who has already experienced a far more harmony-focused version of this pattern in the initial chorus [0:00 – 0:31]. A spectrogram analysis, shown in Figure 7, can easily show the greater level of intensity through far denser collections at these regions. The kick drum remains a prominent component to the remainder of the track, and the impact of this union of rhythmic profiles settles into standard conformity.
The formal sections that feature a far weaker influence of either the four-on-the-floor pattern or syncopated profile are both build sections, which instead samples the Winston’s Amen break to generate tension towards the breakdown. A breakbeat reference occurs between the kick and snare drums, starting at [0:31], which features the iconic rhythmic breakbeat model (see fig. 1 in chapter 1 for an example). Accompanied by a steady stream of sixteenth-note hi-hat beats, the sample goes relatively unnoticed until the final reference just before the breakdown at [0:44] where the actual cymbal sound from the Amen break pops out of the texture momentarily. As discussed in the previous chapter, the breakbeat pattern can be utilized cleverly to assert a forward momentum in a four-on-the-floor-styled production. Accelerated hi-hat beats, non-routine kick drums, and rapid snare hits create a forward momentum within the build, accentuated by a familiar reference.

These rhythmic profiles allow for variety when comparing similar formal sections. Figure 4 (pictured above) lays out the individual formal groupings in a familiar Variations Timeline fashion. Present are such keywords as chorus, build, breakdown, and outro, which are, for the most...
part, serving expected functions. The chorus presents the main lyrical content of the track, beginning with the line “Sorry I ain’t got no money” from the start. Lyrical repetition occurs once more at [1:16], though an entirely different sound world is presented in the second chorus. While the breakdown was the first moment of the syncopated profile and four-on-the-floor pattern coming together, the second chorus features the additional rhythmic entity of the Amen break/breakbeat pattern. Both chorus sections feature two distinct antecedent and consequent phrases, each eight bars in length, with a noticeable harmonic shift between the two. This chordal pattern remains indistinct in the second chorus, though the consequent phrase [1:32] is characterized by heavy usage of the Amen break cymbal sample, which is heard just before the first breakdown.

All three of these rhythmic profiles combine and generate further intensity towards the second build section [1:47 – 2:17]. This second build is double in length and features a false arrival point half-way through the section. The arrival point feels just like the initial build, which ended at [0:46], though Galantis has chosen to extend this moment of tension [2:02 – 2:17], which prepares the arrival of the breakdown [2:17]. Note the Peak Graph above the Variations Timeline in Figure 4, which has this moment highlighted with a red box alongside a dip in the intensity of the second build.

The Peak Graph of Galantis’s No Money also notes a significant difference in the perception of either breakdown section. The first breakdown section [0:46 – 1:16] is split into two separate and distinct phrases. The first phrase is the previously discussed rhythmic groove on both the syncopated profile and four-on-the-floor pattern, while the second phrase has build-like qualities that increase intensity into the second chorus. A slight pitch sweep, vocal sample, and reduced timbral range all signal the musical direction towards the next formal section.
The second breakdown [2:17 – 2:48] is exactly the opposite effect of the first. Instead of having a large drop in intensity, the entire texture reduces in a block fashion, only to return at [2:37] to the same level of the first phrase. This is represented in the Peak Graph with the protruding rectangle in the center of the section [2:33 – 2:36].

A spectrogram (fig. 8) can display this effect very clearly, even when separated from the audio. The diagonal lines representing the pitch sweep can be noted half-way through the left pane, occurring just above the dense collection in the lower frequencies. In the right pane, the textural reduction can be easily seen when the stronger, brighter bass tones drop out. Once these tones resume, the music itself is unchanged, as can be noted by comparing both large white blocks. The thinner, less dense texture of the first breakdown is instead replaced with the same level of intensity in the second, consequent phrase of the latter breakdown.

Figure 8: Spectrogram Analysis of both Breakdown sections. [0:46 – 1:16] and [2:17 – 2:48] respectively.
Galantis’s No Money can be then defined as a house subgenre, notably by the usage of a four-on-the-floor beat pattern. The unique rhythmic qualities of No Money then come to fruition from combination of two rhythmic profiles. The syncopated profile, which acts against the stable model of the four-on-the-floor pattern, provides an unusual emphasis on beat 4 instead of the traditional strong beats, 1 and 3. Creative sampling of live instruments such as steel drums and distant brass helps contribute to Galantis’s unique sound world.
Figure 9: Variations and Peak Analysis Graph for Maggie Lindemann’s “Pretty Girl (Cheat Codes x Cade Remix)” (2017)
Maggie Lindemann “Pretty Girl (Cheat Codes x Cade Remix)” (2017)

Maggie Lindemann’s original song, “Pretty Girl” (2017), is a pop-infused vocal track, that features a far slower tempo at 94 beats per minute (BPM) and a vastly different formal structure. Cheat Codes and Cade have used the vocal portion of her original song to create the house remix, which sits at a tempo around 126 BPM. The increased tempo creates a number of problems for the track, most notably that the lyrical content from the original song will be expended far more quickly in the remix. 94 beats per minute would equate to roughly 340 actual beats in Maggie Lindeman’s Pretty Girl, whereas the Cheat Codes and Cade remix (at 126 BPM) contains around 406 actual beats. This creates an environment where about 46 beats of time would need to be newly composed music for the remix: a situation that Cheat Codes and Cade easily remedy with a breakdown.

Figure 9 provides the form of the Pretty Girl remix, with traditional verse/chorus labels. An intro [0:00 – 0:16] and outro [2:55 – 3:13] create the formal boundaries of the track, with the pre-chorus/chorus labeling acting as a build/breakdown combination [0:48 – 1:35] & [2:07 – 2:23].16 The main difference in this diagram is the use of verse, as opposed to a chorus (featured in Galantis’s No Money). Trevor De Clerq’s previous discussion on the differences between verse and chorus assert that altered lyrical content cannot be distinguished as a chorus (de Clerq 2017, 2, 11). While subtle, the lyrical content does indeed change between verse 1 [0:16 – 0:48] and verse 2 [1:35 – 2:07], requiring a distinction.

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16 The pre-chorus and chorus labeling is unique due to the lyrical nature of the track. While these sections share a lot in common with build and breakdown sections, the lyrical repetition forces the traditional verse/chorus labels.
Figure 10: Variations Timeline Formal diagram of Maggie Lindemann’s “Pretty Girl” (2017)
Cheat Codes and Cade have also taken Maggie Lindemann’s original lyrical form and altered it quite a bit to fit the faster, electronic dance-infused model. In Lindemann’s original work, her lyrical form follows a very prototypical verse/chorus form, alongside transitional pre-choruses and a bridge (fig 10). The remix uses the lyrical content of Lindemann’s choruses to create the vocal portions of the intro, and both pre-chorus sections. Comparatively, the verses are a combination of the original song’s verse and the pre-chorus, hence the doubled duration. The main implication of this lyrical swap is that it diffuses the climactic arrival of the chorus in the original. Maggie Lindemann’s work began with a lightly textured chorus [0:10 – 0:30], which then grew through a verse and pre-chorus [0:30 – 1:11] into a far louder chorus that arrives at [1:11]. Cheat Codes and Cade’s remix pushes through these milestones, and creates a new arrival point at the end of the chorus on the words “I’m not just a pretty girl.” It is a clever way to use the tail end of the chorus as a break signal leading into the chorus, while also both creating a unique lyrical form that still holds onto the spirit of Lindemann’s writing.17

Figures 11a, b, and c: Developing four-on-the-floor patterns of the breakdown

17 Break signal, once more, is my own term of a momentary lapse of texture that ‘signals’ the moment just before the breakdown occurs, or in this case, a chorus.
The rhythmic profile of Cheat Codes and Cade’s remix features a very steady four-on-the-floor pattern, similar to both Galantis’s No Money and the prototypical model. Figure 11c shows the complete pattern as heard in the chorus, starting at [1:20]. Figures 11a and 11b show two developing versions of the pattern, that sound at both [1:04] and [1:12], respectively. Example 11b adds in the snare hits on beats 2 and 4, which help to establish the backbeat. A hi-hat embellishes the snare by adding a fourth sixteenth-note of beat 1, and then eighth notes on the “and” of beats 2 and 3. These hi-hat beats form the basis of snare drum motion, which is fully realized as a much more consistent pattern in example 11c. The final complete pattern contains these quasi ‘pick-up’ hi-hat beats that continue motion through to each hit of the kick and snare drums.

The steady four-on-the-floor pattern gains rhythmic interest in Pretty Girl through a transforming triplet pattern, which originates in the introduction. A higher-pitched plucking synth (fig. 12), creates the initial motive that is later developed through growing texture, harmony, and melodic content.

![Figure 12: Triplet rhythmic pattern in the Introduction [0:00 – 0:16] with implied harmonic analysis](image)

![Figure 13: Triplet rhythmic pattern at the start of the Verse [0:16] with implied harmonic analysis](image)

After the introduction, this triplet motive tells an entirely different harmonic story, and begins to change the tonal emphasis of the work. Figure 13 displays the triplet motive as it appears...
from the first verse [0:16] and on. Cheat Codes and Cade took the Bb major-focused progression and changed the bass notes to become a rising stepwise passage, with slight jumps towards the end of the pattern. The entire implied tonality changes once the pitch {G} begins to take on an asserted harmonic center.

The shift isn’t particularly striking or out of place: The g natural minor tonality being implied with this bass motion is both a relative minor to Bb major, and closely resembling Bb major pentatonic (of which the chorus is composed out from). Figure 14 presents the melodic line of the chorus, which is once again the new material created for the remix. The content of the melodic line makes up both scales in question, though there is undoubtedly a g natural minor inflection when the final {F} resolves to the {G} on the next phrase.

![Figure 14: Breakdown melody [1:04 – 1:12]](image)

In terms of a formal discussion on Pretty Girl, Figure 9 displays the Peak Graph above the Variations Timeline. While other tracks such as Muzzy’s Crescendo (fig. 12, Chapter 1) displayed a heavy drop in intensity after introductions, verses, and builds, the Cheat Codes x Cade’s remix of Pretty Girl features a very linear progression that repeats twice. The red rectangles on Figure 9 highlight two instances where the intensity receives a slight increase by adding new textural elements. This creates a continuous formal narrative leading towards the chorus, which creates an even more sectionalized division at [1:35] at the start of the second verse. This formal division has an impact on the perception of Pretty Girl, as the more linear progression creates a less turbulent formal palate.
Figure 15: Large-scale analysis of 808 State’s “Pacific State” (1989)
Pacific State’s “808 State” (1989)\textsuperscript{18}

Figure 16: Four-on-the-floor beat pattern to Pacific State

The beat pattern to Pacific State, pictured above, is a fairly typical four-on-the-floor style. Kick drum beats are persistent on the bottom space of the staff, sounding at almost each quarter note. The snare drum remains on the backbeat of each measure, sounding on beats 2 and 4. Driving sixteenth-note hi-hat clicks fill the empty beats of the measure and provide a constant subdivision of each individual quarter-note duration.\textsuperscript{19} The kick drum is the only peculiar rhythm within this standard four-on-the-floor skeleton, with its irregular stutter-like figure on beat 4 of measure one. While not necessarily powerful enough to effect the overall feel of the four-on-the-floor pattern as a whole, this stutter-like figure provides a unique rhythmic model to 808 State when compared to other house tracks. This is especially true when considering that the figure occurs on a weak beat in a four-four time signature, and can be perceived far more as a pick-up into measure two than a point of arrival.

On a larger scale, the formal layout used to describe the progression of texture within 808 State relies heavily on the usage of repeating instrumental samples to define the parameters of such

\textsuperscript{18}As mentioned in the introduction to this chapter, Pacific State’s “808 State” (1989) and Frankie Knuckles “The Whistle Song” (1991) both feature an expanded analytical diagram, dictated in both Figures 15 on pg. 59, and Figure 17 on pg. 65. This expanded figure still includes the usual variations timeline and peak graphs to show large-scale form and intensity. The additional diagrams included are a textural diagram, complete with every repeating sample/instrument in the track, and notated musical examples that correspond to these voices. The following analyses will rely heavily on these figures to explain textural importance as it relates to my personal analytical and interpretive response.

\textsuperscript{19}The lowered “x” on the hi-hat line denotes an open hi-hat sound, notated for sample accuracy, but has no impact on the rhythmic perception of the beat pattern.
sections. Figure 15 displays the entire track, sectioned-off by groupings of 4 – 8 measures, lasting approximately between 8 – 16 seconds of time (these are notated where the time/measure shift corresponds). Formal boundaries occur between the introduction, groove section A, counter-groove, and groove section B.20

Within 808 State, the most form-defining voice comes through the harmonic synths, notated in sample B of Figure 15. Starting at [0:08], these harmonies (at the same pitch level and timbre) persist throughout the introduction and both groove sections A and B. The distinct lack of these chordal synths in the counter-groove section is a particularly pertinent reason why this distinct formal section exists, among other factors that will be discussed later.

Formal unity also comes through multiple other voices that empower the harmonic line, most notably through the beat pattern (sample A), bass synth (sample G), and the bird sample (audio sample, non-notated). These three elements alongside the harmonic synth create the main groove package, which comes together in its entirety at [1:08]. The combined experience creates the baseline pattern with which textural embellishment can occur in other voices to create change within the track’s formal palate.

These textural embellishments can be observed closely in groove section A through the vocal sample (sample D), and the saxophone samples (samples Ca and Cb). While the vocal sample is established clearly in measure 10 (and repeated multiple times throughout), the remaining utterances of the sample are either heard in two-measure chunks or only repeated very sparingly. The first instance of the sax sample occurs just 4 measures before the end of the introduction, and

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20 These sections all feature timestamps and are notated both in the textural diagram and variations timeline graph. While both do not necessarily line up perfectly (due to resolution issues within the software), these are intended to be observable in tandem and provide a macro/micro exploration of the work.
only the first of the two sample (sample Ca) is heard at this point in time. Throughout the remainder of groove section A, these samples are intertwined to create irregular points of interest within an otherwise repetitive and well-establish groove pattern.

The counter-groove section [3:28 – 4:54] provides a sharp turn from the pre-existing groove pattern of sections A and B. The counter-groove section contrasts the main groove sections in a number of ways. Most notably, the main groove sections relied heavily on harmonic synths, saxophone samples, bass lines, and a counter-melody through the syncopated figure (sample E) to generate the musical content. These samples are more harmonic and melodic in a nature, as the four-on-the-floor pattern itself is relatively flat rhythmically and relies on a very steady beat pattern without much variance. This does allow for more ‘play’ in the other samples when compared to a more active beat pattern, like that of drum and bass.

What the counter-groove section does to contrast the main groove sections is provide a more rhythmically-focused beat pattern that pulls itself back from the harmonic and melodic reliance found in the main formal sections of the track. A wood block (sample F) does provide some melodic content to the section, but does sound with heavily articulated beats that coincide with the extra percussive instruments added. Shakers, bongos, claves, and other samples join in with the four-on-the-floor pattern to create an entirely different atmosphere.

Once these elements come together to form the rhythmic palate of the counter-groove, Pacific State creates a four-bar deviation from this pattern (labeled as Complete Audio Mixing in fig. 13) to break up the unification. Inside the Complete Audio Mixing, all of the samples combine together into what has the aesthetic of a record spinning backwards. The vocal sample is present in this sub-section, though fragmented, and provides some grounding to the rest of the track. At
roughly [4:30], the bird sample re-unites with the other counter-groove elements and begins the twenty-measure motion towards the final formal section, groove section B.

Groove section B thus becomes a combined, yet shorter, version of groove section A and counter-groove combined. The percussion and wood block samples take place in this final groove section, with a much thinner texture than the first. The harmonic synths are only present for about half of this formal section, with the wood block taking over [5:42] as the track comes to a conclusion. Saxophone samples are far sparser with only three utterances compared to the original nine in the longer groove section A.

The peak graph and variations timeline diagrams share a common formal narrative on a less-detailed scale. The variations timeline diagram lines up with the textural diagram, showing larger bubbles over the detailed skeleton of the latter. The peak graph’s display of intensity shows significant changes both directly before and after the counter-groove section. There is a sharp reduction of intensity when the saxophone sample $Cb$ decrescendos and the overall sharp cut-off of bass and harmonic synths creates a radical shift-down, just before [3:28]. The staggered entrances of the counter-groove slowly re-establish intensity leading up towards the *Complete Audio Mixing*, which slightly plateaus the intensity. The re-introduction of the bird sample at [4:30] brings the track back up to the same level of the initial groove section, with the harmonic synths returning alongside saxophone samples, and the counter-melody of the syncopated figure. The reduction of intensity about forty measures before the conclusion is signaled by stagnating groove elements that bring along no change in dynamics or texture, finally followed up with decrescendos in the bird and vocal samples.

The one major peak graph-anomaly can be found notated in Figure 15 with a red curved-line appearing just before the half-way point of the formal section. The variations timeline diagram
is somewhat deceptive in this instance, whereas the peak graph and textural diagram line up properly. At the decrescendo of the harmonic synth (roughly at 1:24), the line dips down and resumes intensity at the entrance of the next harmonic synth at [1:40]. The harmonic chordal synths have played an important role in establishing the background aesthetic to the groove pattern, and losing this key component briefly has a significant impact on the perception of this portion of groove section A. This is the moment when the syncopated figure enters in [1:24], leaving room in the mix to interpret and appreciate this new element.
Figure 17: Large-scale analysis of Frankie Knuckle’s “The Whistle Song” (1993)
Frankie Knuckle’s “The Whistle Song” (1991)

Frankie Knuckle’s *The Whistle Song* (1991) is formally less complex when compared to 808 State’s *Pacific State*. Alongside a simpler form, *The Whistle Song* features a running flute improvisation that creates a loose, non-structured aesthetic. With a limited texture, small sample number, and lack of formal direction, Frankie Knuckle’s track becomes quite a challenge to both analyze and provide a formal narrative. The analysis to follow will piece together formal sections through subtle changes in texture, while attempting to trace the flute solo throughout the duration of *The Whistle Song*.\(^{21}\)

![Figure 18: Four-on-the-floor beat pattern found in “The Whistle Song”](image)

In *The Whistle Song*, the four-on-the-floor pattern is present, though in a subtly atypical beat structure. Figure 18 above displays the pattern with usual kick, snare, and hi-hat placements. The kick drum beats on each quarter note are present, with snare drum placements on beats 2 and 4. Snare drum hits also occur as sixteenth-notes on the fourth sixteenth of beat 2, second sixteenth of 3, and fourth sixteenth of 3. What is not pictured in this figure is the difference of sampling between these two snare drum groupings. The sixteenth-note snare hits are from a different percussion sample altogether, and appear to be referencing a breakbeat pattern with rapid hits between hi-hat sixteenth notes. The pattern found in *The Whistle Song* appears to be a union of

\(^{21}\) The track only features a small number of samples beyond the drum pattern. Synth chords (sample C), whistle sample (sample F), and a rhythmic synth (sample G) are the only other components besides the flute solo. Frankie Knuckles effectively creates a seven-minute track with this small arsenal of samples, and requires some personal analytical choices to be made in order to attempt to piece together a formal narrative.
both an old rhythm and blues breakbeat figure, combined with a traditional four-on-the-floor house-style drum pattern. While certainly the tempo and aesthetic of the track assert house (at roughly 120BPM), the inclusion of this breakbeat sample enhances the prototypical house beat model.

*The Whistle Song* begins with a brief introduction that creates the main groove aesthetic for the remainder of the track. Sample C presents the synth chords, which oscillate between a C Major 7 and A minor sonorities (later altered with the bass synth). A bass synth (sample E) begins a characteristic open-fifths intervallic leap that becomes present in other samples throughout the track. The bass synth now asserts an {F} bass underneath the previous A minor sonority, creating parallel major seventh chords. The relatively weak harmonic structure presented between these two oscillating sonorities provides a tonal palate that the flute solo can improvise on with relatively no tonal clashing.

The first significant formal boundary occurs at [3:28], and is noted as textural shift in Figure 17. The synth chords that made up 1/3rd of the initial groove section drop out for roughly 24 seconds in time (about 12 measures of music). This textural shift is signaled by the flute solo at [3:12] with a leaping-octave motive (sample A). The normal flute improvisation re-enters at [3:28], precisely when the synth chords drop out. In the large-scale textural diagram of Figure 16, the arrival of this octave figure is highlighted with a red rectangle. The flute solo decrescendos before the octave figure, and the melodic stagnation is striking against what was otherwise a fully free-moving musical line. When the synth chords resume at [3:52], the normal flute improvisation has been persisting for some time, and the previously heard whistle sample (sample F) returns at [4:00]. This sample is now accompanied fully by the groove elements, though with the flute dropping out for roughly eight measures.
While this description may seem somewhat contrived, the textural shift was already set up in the first groove section. At [1:36], the whistle sample first enters to a persisting flute solo, which then drops out at [1:53]. An isolated whistle sample becomes accompanied by the new element, the rhythmic synth (sample G) at [2:08], which also follows the same intervallic-fifths figure. The interplay between these three samples occurs at the textural shift, though in a different order. The rhythmic synth comes to a close at [3:44] while the flute solo persists until [4:08], at which point the whistle sample returns at [3:50]. All of this is occurring under an inconsistent texture, which is devoid of the synth chords for 24 key seconds.

In the minimal textural space presented in *The Whistle Song*, a moment such as the one described previously helps to assert change even when only a slight adjustment is made. This moment is asserted retroactively when the second groove section begins at [3:52] when the flute solo resumes uninterrupted at [4:24]. For the remainder of the track, almost no change occurs (besides losing the whistle sample at [5:28]), with only a small moment of harmonic dissonance between the flute and the accompaniment. Otherwise, the remainder of the track plays out similarly to the original groove section, with even less variance in the texture. The lack of variance in the texture from that point forward strengthens the Textural Shift at [3:28 – 3:52] retroactively again, by using that small deviation from the groove to signal formal change.

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22 This can be noted between [4:48 – 4:56] when the flute solo sustains a pitch {F}, creating a tri-tone interval between itself and the whistle sample. From that single moment of change forward, the flute then resumes the normal, consonant improvisation.
Section 4: Conclusions

House as a subgenre of electronic dance music is definitive for one main reason: the beat pattern. The four-on-the-floor pattern is so incredibly subgenre-defining through the simple usage of a consistent kick drum on each individual quarter note. The specific sample usage (as seen with the open hi-hat cymbal in drum and bass) is not important with the kick drum: neither are the snare or hi-hat samples that make up the rest of the beat pattern. The kick drum consistency alongside a BPM around 110 – 140 creates the rhythmic aesthetic around house, without any specific melodic or formal identity. The two newer house tracks (Pretty Girl and No Money) featured a vocally-infused chorus-build-breakdown format, with the latter tracks containing a larger groove-based formal palate.\(^{23}\)

In terms of referencing house in other subgenres of electronic dance music, the four-on-the-floor beat pattern is almost always non-existent. In drum and bass, the four-on-the-floor pattern would have no place due to the lack of metrical emphasis on kick drum beats. The breakbeat pattern of drum and bass has more nuance to the beat placements of kick drum samples, and the four-on-the-floor style would eliminate these weak-beat emphases, and any other accented subdivisions. The idea of consistent kick drum beats finds a home more often in build sections where rapid durational decreasing is used to generate intensity towards the breakdown. In these instances, a complex drum pattern with metrical nuance would become lost in the many extra musical elements taking place.\(^{24}\)

Between Galantis’s No Money (2016) and Cheat Codes x Cade’s remix of Pretty Girl (2017), the formal differences are quite limited. Both tracks feature a chorus to establish textual

\(^{23}\) More accurately a verse-prechorus-chorus model for Pretty Girl, though the vocal component is still true.

\(^{24}\) Once more, I coin this idea as “Rhythmic Diminution” over the span of the build section where this occurs.
repetition, with build sections to generate intensity into a breakdown. The breakdowns themselves contain some rhythmic and melodic content that began development in the previous sections, which in turn makes them more of a continuous progression of previous elements of the track. Instead of individual sections that continue to grow wildly into a climax of new musical content in the breakdown, house tracks of the more recent years (as seen through the two examples discussed) take a more continuous progression and flow. 808 State’s *Pacific State* (1989) and Frankie Knuckle’s *The Whistle Song* (1991) are entirely unique formally from their 21st century counterparts, not yet working in a vocally-driven space that asserts a chorus as the primary reoccurring formal element. Groove patterns erupt in these two tracks, using introductions that slowly introduce more elements until a ‘mix’ is created, which then forms the main repetitive content for the remainder of the track. Formal boundaries are then created when deviations from these groove sections arise, signaling change in a space that relies on static repetition.
Final Thoughts and Conclusions

The initial goal set forth in the introduction was to develop a better understanding of the nuances related to two specific subgenres of electronic dance music: house and drum and bass. I wanted to take a look at these subgenres through a series of categories that would reveal multiple levels of comprehension. These levels of comprehension then became expressed through diagrams that showed micro and macro levels of analysis. Overall, the intention was to provide analytical vignettes that perform two-fold analytical duty: presenting data as objective fact, with subjective interpretation based on my own personal experience. This experience led to a few conclusions about these subgenres in the project.

The most genre-defining element when it comes to labeling tracks such as house or drum and bass becomes heavily predicated on the type of beat pattern employed. In the pursuit of gathering musical works to analyze, simply listening for tempo and the type of beat pattern used was enough to begin shoving tracks in defined categories. While subjectivity could be a factor in determining if a particular track sounds house enough, isolating the beat pattern alongside tempo is an unbiased method of classification.

My initial thoughts were that other components would hold definitive weight in the classification process, such as synth melodies, harmonic progressions, textural development, and even formal boundaries. No matter the subgenre, a tonic - dominant - tonic chord progression holds no determinant value. Formal boundaries were dictated more by whether a vocal component was included, with which a strict verse/chorus form would be employed to match the repeating lyrics of the chorus. There was more freedom in the formal construction without a vocal component, though this ultimately held no particular weight on whether a track was house or drum and bass.
Drum and bass tracks naturally had longer and less derivative breakdown, and were composed out of unique material. House tracks would generally use content from the introduction or chorus to inflect the breakdown melodically/harmonically. It is plausible that a drum and bass track could have a more derivative breakdown but still be drum and bass due to the faster tempo and breakbeat combination. House tracks commonly held a stronger sense of harmony through dedicated chordal synth voices, accompanied by syncopated bass lines that accompanied the relatively stagnant rhythmic profile set forth by the kick drum in the four-on-the-floor pattern. In drum and bass, far more interplay occurs between the bass lines and the unrelenting breakbeat pattern that creates a more rhythmic-focused subgenre compared to a more melodic counterpart in house. House could be rhythmic and drum and bass could be melodic, but a breakbeat pattern cannot exist as house, only within. These are not necessarily rules, but observations based on characteristics shared by many tracks that claimed to be its held subgenre.

Electronic dance music subgenres then take on the position as continuing a musical narrative that began in the late 1970s. Beat patterns set in place by available drum samples, musical taste, and technological restrictions have continued on, only altered by modern day production. While modern taste has changed from a more slowly developed groove-based texture to more radically sectioned-off formal boundaries, the beat patterns have remained relatively unchanged. What we can observe in old house and drum and bass tracks then becomes a microcosm of a larger idea in electronic dance music: slow development over a long period of time with an unchanging force of musical will.

25 Technological restrictions such as a limited sample size with the Roland drum machines has maintained a traditional set of drum samples that has persisted to this day.
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