"WHERE'D YOU FIND THIS?" AN EXAMINATION OF PRODUCTION TECHNIQUES AND GENRE DIVERSITY IN ELECTRONIC DANCE MUSIC

HONORS THESIS

Presented to the Honors Committee of Texas State University in Partial Fulfillment of the Requirements

for Graduation in the Honors College

by

Josue Raphael Plaza

San Marcos, Texas May 2015

"WHERE'D YOU FIND THIS?" AN EXAMINATION OF PRODUCTION TECHNIQUES AND GENRE DIVERSITY IN ELECTRONIC DANCE MUSIC

	Thesis Supervisor:
	Stephen Owen Summer, J.D. School of Music
Approved:	
Heather C. Galloway, Ph.D.	

TABLE OF CONTENTS

	Page
LIST OF TABLES	2
LIST OF FIGURES	3
ABSTRACT	4
CHAPTER	
I. Introduction	5
II. History	8
1970s	8 8 10 11
III. Production Techniques by Genre	12
House Techno Electro House Trap Ambient/Chill Out	12 12 13 14
IV. Case Studies	15
Method and Procedure "Kawaii (Re-Lectro Extended Mix)" by Vitodito and Oza "By Your Side" by Big Chocolate "Light Years Away" by Oliver Analysis and Discussion	16 18 . 19
V. Summary	. 24
REFERENCES/LITERATURE CITED	25

LIST OF TABLES

Table	Page
1. Dance/Electronic Music – Popularity by Year (1960 – 2010)	6

LIST OF FIGURES

Figure F	Page
1. Transient Diagram of "Kawaii (Re-Lectro Extended Mix)" - Vitodito & Oza	16
2. Transient Diagram of "By Your Side" – Big Chocolate	18
3. Transient Diagram of "Light Years Away" – Oliver	19

ABSTRACT

This study investigates production techniques and song arrangement in genres categorized as electronic dance music (EDM). Due to the accessibility of digital audio workstation software (DAWs) and virtual studio Technology (VSTs), home music production has become more widely available. Furthermore, the Internet has made it easier than ever before to share and discover new music while providing a thriving environment for music to grow and develop. By examining the production techniques of a music type, we hope to view the genre's characteristics, see similarities with other genres, and forecast how that music might continue to change. The purpose of this paper is examine if EDM genres can be classified by their production techniques and structure.

CHAPTER I

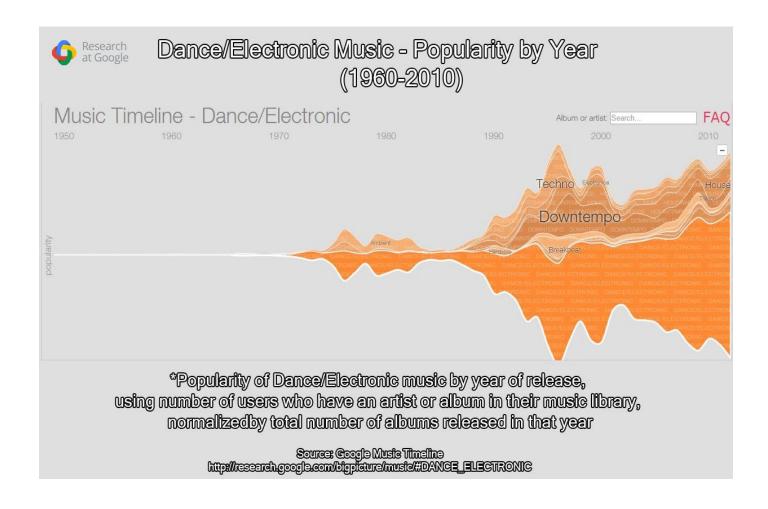
INTRODUCTION

EDM is a form of music that is commonly played in clubs, venues, and music festivals. EDM is the term given to a collection of genres with tempos ranging from 80-180 beats per minute and produced primarily with electronic synthesis. These songs typically follow a formulaic arrangement that is intended to entertain the listener and encourage them to dance, especially during the "hook" portion of the song. Because the hook is so important, and "only results in 20 or so seconds of music and since most dance tracks will run anywhere from 4 minutes to 8 minutes, it requires a lot more than simply repeating the same pattern over and over." (Snoman 2013). The chord structures of EDM vary depending on the genre. By using different types of harmony, these genres manipulate the themes and tones of the song. One example is Trip-hop, an EDM genre that introduces weak chord progression pairs, but resolves them during the "hook" sections of the music track (Snoman 2013). However, despite the different methods of chord structures, all EDM upholds the fundamental characteristics of heavy basslines complemented with a drum machine consisting of an 808 kick drum, snare, hi-hat, and other percussion.

The current state of electronic dance music has been predicted before by prominent musicians of the past. For example, Jim Morrison of The Doors, a popular American rock band during the 1960s, was interviewed about his thoughts of the future of music. He responded "the new generation's music . . . might rely heavily on electronics, tapes, I can kind of envision maybe one person with a lot of machines, tapes,

and electronics set up, singing or speaking and using machines." (Gosselin, 2006). Morrison made this prediction in 1969, but it is an accurate description of the process behind EDM production. The production of EDM music is usually created by one individual known as a music producer. Some refer to this person as a DJ, however a DJ and a music producer are involved in two different aspects of the EDM music industry.

EDM has gained a large market share of the music industry during the last 10 years. Attendance at the five largest EDM festivals increased by 41% between 2007 through 2012 (Music Trades, 2013). Meanwhile, the total concert market for the same period increased by a mere 3%. (Music Trades, 2013). These numbers indicate that there



is an increasing demographic of EDM listeners globally. Google Research graphed the popularity of electronic/dance music using the year of album release, using the number of users who have an EDM artist or album in their music library, normalized by the total number of albums released in that year (Table. 1).

Table 1

The growing interest in electronic dance music has surpassed the popularity of electronic music during the mid-1990s. Due to the growing interest of EDM within the last 10 years, this thesis is an analysis of the genres classified within the EDM music umbrella of today. This paper will explain the various production techniques used, and how they differ depending upon the tempo, harmony, song arrangement, and production. Spectrum analyzers, spectrograms, and amplitude graphs, will be used to visualize the frequency differences between songs of different genres. Correlations will delineate between specific EDM genres that are derivatives or "sub-genres" of one another. With this information, a prediction will be offered regarding what EDM production techniques may become more popular in the future.

The supplementary album CD of this thesis includes five EDM tracks composed by the author. Each song reflects a genre under the EDM umbrella by using the production techniques that are characteristic for their designated genre. References will be made to this CD throughout the thesis to better illustrate the history behind specific production techniques, and the sounds affiliated with chord structure, song arrangement, and genre.

CHAPTER II

HISTORY OF ELECTRONIC DANCE MUSIC

1970s

Before the existence of EDM, the American public had a different taste for dancing. In the 1960s, places known as "discotheques" were venues where the nightlife thrived. "The impact of the Mod-era discotheque reinvigorated American nightlife." (Braunstein, 1999). Patrons would attend these venues to dance and party. Most of the music playing was doo-wop, a genre that had been emerging since the end of WWII. By the 1970s, "discotheques" began playing music using a blend of funk and soul music to create the dance floor vibe. The dance styles and attitudes evolved along with the music. This sound was utilized by many of the 1970s popular culture events such as "Saturday Night Fever" and records by the Bee Gees, ABBA, and Elton John.

In the late 1970s, digital synthesizers, samplers, and sequencers became available in the United States. Unlike other analog equipment of the time, these machines were relatively inexpensive. Sequencers were used to record melodic arpeggios, basslines, and drum patterns by adjusting the various knobs and parameters. These machines would be pivotal in the production of early-EDM genres. By using these electronic musical instruments, American DJs from around the United States began breaking the barrier of electronically composed music.

In the 1980s, Chicago DJs, such as Frankie Knuckles, began refining dance-floor club hits. This was accomplished by introducing music by local Chicago area musicians and blending it with the music of the 1970s (Glazer 2014). The musicians added the upbeat funk rhythms that American's had grown accustomed to. To this groove, the DJs added the sounds generated from the digital synthesizers and drum machines. The club where Frankie Knuckles experimented, the WareHouse, would eventually coin the term for this style of music known as "House." (Rietveld, 2000). House became popular in Chicago, especially within the gay community. The music began to receive airplay from radio stations, in the surrounding area.

Chicago wasn't the only place where DJs began experimenting. The New York venue Paradise Garage and DJ Larry Levan began branching away from the traditional disco-based sounds and started venturing into his own unique sound that would become known as "Garage." The tempo, often described as mid/downtempo, would hang under 110 beats per minute. During the decade, these two genres would begin to overlap as both House and Garage gained popularity.

In Detroit, Michigan, Juan Atkins and Richard Davies (3070) co-experimented with early House and Garage music. Both were obsessed with futurism. "[They] celebrated the romance of Technology, of the city, of speed, using purely electronic instruments and sounds." (Savage, 1993). Both were inspired from the Midnight Funk Generation on WJLB-FM, a show that played electronic music from experimental to synthpop (Savage, 1993). In 1988, Neil Rushton, a British DJ and record label owner,

created a compilation album titled *Techno – The New Dance of Detroit* for Virgin Records. The compilation album would set Techno apart from House and gain a reputation for its minimalist style. As Technology continued to advance in the 1990s, Techno would increasingly become more complex. The artists who began to produce Techno started to branch into a more pop-influenced direction. This style of music would also become more popular in Europe for the remainder of the decade rather than its birthplace in the United States.

1990s

In Europe, 'rave culture' began to emerge. Various dance organizations began to host "raves" in wareHouses and fields. Raves were shows where prominent DJs performed in an atmosphere that was complemented with neon and strobe lighting. The DJs would commonly play experimental and emerging EDM music styles. Many of these techniques for entertainment would become the standard for electronic music shows in the twenty-first century. The United Kingdom attempted to discourage raves by adopting The Criminal Justice and Public Order Act 1994 (The Crown Prosecution Office 1994). This act gave officers the power to turn away citizens who they suspected were on their way to a rave, as well as disbanding raves that were happening. With rave culture fueling a fan base for electronic dance music, it would not be long befor EDM would be embraced internationally.

Digital Audio Workstations (DAWs) were created in the 1990's. These utilized computer software to produce music with only a computer. By the late 1990s, they had begun to pick up traction in the music production industry. Digital synthesizers had

become a staple for electronic music producers, but were limited by the amount of sounds it could produce. DAWs, however, allowed for more tracks, more flexibility, and more control for music producers. They were also substantially cheaper compared to their analogue counterparts. "Price has seemingly gone down everywhere, and 64-bit [DAWs are] becoming the new normal," (Mix 2014). DAWs started to gain market share with music producers, prompting many to create their own home studios rather than pay to record in professional recording studios. With this new machine, producers now had a tool that allowed for musical expansion. The byproduct, an increased popularity of the EDM genre.

2000s

Attendance at EDM festivals increased during the mid-2000s. According to Spin Magazine, promoters and venues capitalized on the fact that they could receive bigger profits when booking DJs instead of other music acts. "With a well-established industry in place, electronic dance music really only had one direction to go, up." (Arthur 2013). This rapid growth of EDM also generated more listeners open to new genres. Some of these genres that were thriving in the underground UK music scene began to gain traction in America. Names such as Dubstep, trance, and Trap are some examples that began to be played at festivals that use to be only House and Techno-dominated lineups. The Internet also helped generate a strong fan base and allowed for these new genres to pick up followers at a faster pace. "At [2011]'s Lollapalooza, the granddaddy of the Alternative Nation, Deadmau5 closed out the festival on one of the two main stages – the same stage and time slot given to Coldplay and My Morning Jacket the previous two nights." (Sherburne 2011). Deadmau5 is a progressive House DJ who is considered to be

one of the biggest acts in EDM. In 2013, Billboard, a magazine that tracks the American music industry sales, created the "Dance/Electronic Songs" chart, which tracked the top 50 EDM songs based on radio criteria such as radio airplay, sales, and streams (Pietroluongo 2013). That EDM was being tracked by Billboard was a confirmation that EDM had entered into the mainstream American market. It was now competing with genres that had been there for decades, such as country and rock music. Consequently, as the world became more connected through mass communication, EDM music and its production techniques were being shared world-wide.

CHAPTER III

PRODUCTION TECHNIQUES BY GENRE

House

Because House music is known as the very first EDM genre, many of its production techniques are replicated throughout EDM music. They are many "subgenres" that branch from House music because of their focus on a specific musical scale. For example, Disco House, a sub-genre, is produced utilizing a major key while Swedish House is produced utilizing only a minor key (Snoman, 2013). However, all House music contains the quarter-note kick drum complemented with a percussion pattern that may include snares, hi-hats, claps, shakers, and cymbals. Other miscellaneous percussion such as cowbells, tambourines, or congos are sometimes used as well. "Fundamentally, House is produced in one of three ways; everything is sampled and rearranged; only some elements are sampled and the rest is programmed, or the entire track is programmed via MIDI and virtual instruments. The approach taken depends entirely on what style of House is composed." (Snoman 2014). In the supplemented CD of the thesis, 0:00 - 0:45 of Track 2, "Debtors" by Covo, begins with a typical House drum pattern. This arrangement is created using MIDI and virtual instruments. Essentially, all production is created in the computer, with no external sound modules being used.

Techno

During the early stages of Techno's birth, the term "Techno" was used to describe any form of electronic dance music. However, over the years, the term has evolved to

reflect a specific style of EDM. The beats per minute of a typical Techno track range from 130 -150 bpm. It will contain the basic drum rhythms that are common in House music, such as the quarter-note kick drums, sixteenth-note hi-hats, and half-note claps or snares. The snare drum will typically play the same pattern as the bass drum, giving the track an "umph-umph" feel. "Fundamentally, this means that it's produced with the DJ in mind, and in fact, most Techno is renowned for being 'DJ friendly' being formed and written to allow him (or her) to seamlessly mix all the different compositions together to produce one whole continuous mix to last through the night." (Snoman 2014). Reverb will also be added to the kick drum. The production techniques for the reverb varies depending on how the producer wants the track to feel. Other portions of the percussion will also be treated with reverb, such as the snares and claps. In the supplemented CD of the thesis, Track 6, "Frisco Sea of Love (Techno Kitten Adventure)" by "Antrax.Viruz, best represents this genre of music.

Electro House

Electro House is a genre of EDM that has evolved from the synthpop, electro, and House genres. This style of music is based on a "four on the floor" beat rhythm found in House music, and combines the chord progressions in electro and synthpop. Tracks tend to be fast, with an average of 128-138 beats per minute. Due to its similarities to synthpop, many Electro House tracks are featured in radio play. Many top performers of EDM such as Zedd, Skrillex, and Knife Party are considered to have their music described as Electro House. Electro House uses a strong amount of synth leads to emphasize the hooks and melodies of their songs. They are often "catchy" and "upbeat."

In the supplemental CD of this thesis, Track 7, "Power Glove" by Knife Party, best represents this genre of music.

Trap

Trap music is an EDM genre that draws many of its characteristics from hip hop and rap of the 1990s. The beats per minute are on the slower spectrum, ranging from 60-90 beats per minute. Unlike hip hop music, where there is usually a vocal that takes up the primary focus of the song, the main focus on a Trap song is the instrumental. The drum and bass parts are arranged to greatly emphasize the "drop/hooks*" sections in the song. Trap music is also known for using samples to complement the sections. Like dubstep, it is common to see a vocal sample mixed into the song right before the song transitions into a section. In the supplemental CD of this thesis, Track 4, "The Badmouth Calls" by Covo, best represents this genre of music.

Ambient/Chill Out

Not all EDM genres have emphasis on the bass, kick, and synth leads.

Ambient/Chill Out is a genre of music that uses reverb and delay to emphasize an atmosphere that is more ethereal to the listener. Instead of dancing intensely, ambient/chill out music has a more relaxing vibe. The beats per minute for this genre range from 55 to 100 beats per minute. Unlike the production techniques used in other EDM genres, where one distinct production technique will tie a song to a specific genre, Ambient/Chill Out is more eclectic. It does not usually use heavy drum patterns or accented melodic thoughts, but is composed with the use of electronic sounds to achieve

its goal, approaching the music in a more delicate manner. In the supplemental CD of this thesis, Track 3, "Fall & Blue" by Covo, best represents this genre of music.

*Drop/hooks are portions of the song where the song is at its peak. Typically this involves the dynamic frequencies to be loudest, where the tension is released

CHAPTER IV

A. CASE STUDIES

Tempo, key time signature, song arrangement, and instrumentation are used to define genres. These characteristics are no different in EDM. This thesis will analyze three EDM recorded tracks to examine the different characteristics of each EDM genre. It will do this by observing the tempo, song arrangement, instrumentation, and production techniques. This information will be used to draw correlations between the different genres and their characteristics in their genres.

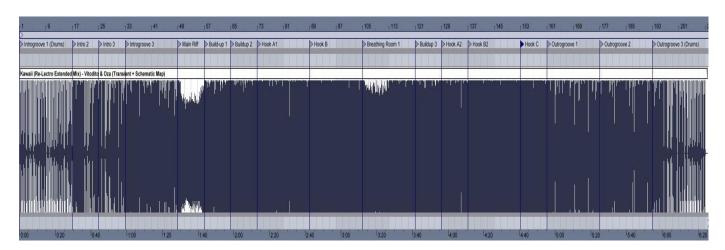
B. METHOD AND PROCEDURE

This thesis selected the following EDM tracks: "Kawaii (Re-Lectro Extended Mix)" by Vitodito & Oza, "By Your Side" by Big Chocolate, and "Light Years Away" by Oliver to conduct its case study. These tracks were selected because they are prime examples of their designated genres because of the production techniques of their drum patterns, bass lines, tempo, and instruments. All three songs contain the same song structure: an intro, hooks, build-ups, and an outro. Each of the three tracks contain melodies that serve as the theme of the track. This theme is emphasized during the hook sections, as is a standard practice within EDM genres. The hook sections of the songs tend to be in the middle of song structure. The other sections add instruments to the composition throughout each section to "buildup" the track to the hook. All three songs use vocals, however two of the three songs "chop" or "slice" the vocals, which fractures the vocals to sound as if they are cut or glitched. This is a common production technique

that is used to implement the vocals to the song's theme. The song that does not slice the vocal, "Light Years Away," instead uses a vocal sample and places it at the end of the hook section and build-up section to emphasize the transitioning between sections.

The transient map created to aid in the analysis displays the song measures and song time. The songs are mapped and separated by the following sections: introgrooves, build-ups, hooks, breathing room, and outrogrooves. These maps are created and structured by the author's interpretation of the songs. The transient map illustrates the growing intensity throughout the song in relationship to the song structure. This thesis compares each song's transient maps to observe the differences in production techniques and song structure.

1. "KAWAII (RE-LECTRO EXTENDED MIX)" BY VITODITO AND OZA



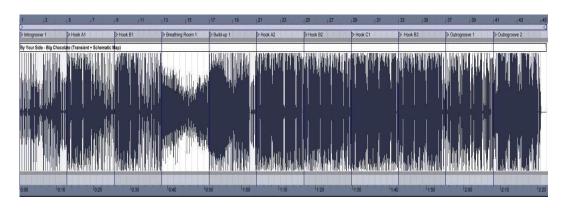
The first case study, "Kawaii - Re-lectro Extended Mix" by Vitodito & Oza, is labeled as Electro House. The introgrooves and outrogrooves are composed of drums only. This makes the song "DJ-Friendly," enabling DJs to use this song easily when they are performing live. DJs typically queue the introgroove section of the upcoming track to be played in their performance with the outrogroove of the current song that is playing.

Music producers, like Vitodito And Oza, want their music to be picked and played by DJs so they include these sections.

During the first minute of the song, the introgrooves lay down the foundation of the melody. They begin with the kick, snare and hi-hats until 0:31. Afterwards, the drums are layered and given more power. At the start of Introgroove 3, the main synths are added and play a glitch-stutter chord until the main riff is introduced at 1:31. When the main riff takes over, the drums are removed to give the track some breathing room and prepare for the build-up section. "The removing or changing of the bass and the bass drum, and reintroduction of them through the [hook], can be interpreted as the return of the foundation for the clubbers." (Solberg 2014). The hook introduces the sub bass and bass-line at Hook A (2:14). As the hook continues, Vitodito & Oza prolong it by inserting melodic vocal chops at 2:44. This section is named section "Hook B," however the instruments are the same except for the chopped vocals. The hook section lasts for 32 measures. A new riff is introduced during Breathing Room 1 (3:13). Like the name suggests, this section takes a break from the theme of the song. The drums are also removed during this section, and then re-introduced during Build-up 3 (3:43). The hook is reintroduced at 3:58. This section is the same length as the first hook section, however, Hook A2 lasts for only 8 measures instead of 16. Hook B2 lasts for the same amount as Hook B1. This leaves for 8 measures left to be filled. Vitodito & Oza fill this section by adding the music part from Hook A, plus the riff from Breathing Room 1 together. This section is named section "Hook C." At 4:56 in the song, the two main hooks have been completed, leaving the outrogrooves as the only sections left to be played. The structure of the outrogrooves are identical to the introgrooves of the song. When a DJ plays this

song live, the DJ fades in another song during this section. DJs focus on capturing the build-ups and hooks of songs, maximizing the entertainment value for the audience.

2. "BY YOUR SIDE" BY BIG CHOCOLATE

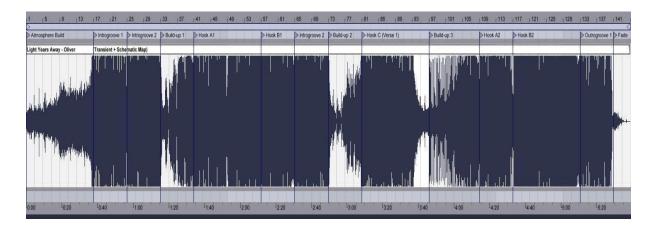


The second case study, "By Your Side" by Big Chocolate is labeled as Trap. Trap is influenced by hip hop and rap music. Regardless, this genre is still popular at EDM festivals and venues. Trap focuses on drum patterns and heavy bass, like other EDM genres. Trap music is not DJ-friendly and requires more skill from DJs in order to make smooth transitions. Although Trap contains introgrooves and outrogrooves, the drum patterns for Trap are more dissimilar. This makes it more difficult for DJs to transition from Trap music in a live performance.

A noticeable difference between "By Your Side" and "Kawaii" is the song length. "By Your Side" lasts for 2 minutes and 22 seconds. This is almost one-third the length of "Kawaii," which has a song length of 6 minutes and 27 seconds. Trap music has short introgrooves and outrogrooves. The theme of Trap songs also have a shorter "shelf-life" to a listener's ears. This means the song can become annoying much quicker than

another EDM genre. The introgroove for this song features vocal chops and drums to introduce the theme of the song. These sounds become reverberated as it transitions into Hook A1. Hook A1 uses the same instruments as the introgroove, with the addition of more percussion and a sub bass that complements the kick. At Hook B1 (0:25), the vocal chops are transposed up an octave. Percussive claps, introduced in Hook A1, are removed. The song transitions into Breathing Room 1 (0:40), where all drums and instruments are taken away except for the vocal chops. At the start of Build-up 1, the vocals become reverberated in the same manner as the end of introgroove 1. This is a production technique to complement Hook A2 to stay as powerful as Hook A1. The second hook portion (Hook A2, Hook B2, Hook C1, and Hook B3) lasts from 1:04 to 1:55. This is double the length of the first hook portion of the song. The first 16 measures of this portion are identical to the first hook portion of the song (Hook A1, Hook B1). Big Chocolate changes this section by adding a new vocal-chopped riff that replaces the vocal sample prevalent throughout the song. After this section, the song reverts back to Hook B. The outrogrooves of this song are not identical to the introgrooves, unlike the first case study. The outrogrooves include the sub bass, which was introduced in the hook sections. The vocal chops remain during the outrogrooves, except played in a new rhythm that is slower, indicating that the song is ending.

3. "LIGHT YEARS AWAY" BY OLIVER



The third case study, "Light Years Away" by Oliver is labeled as Nu Disco. Nu Disco matches many production techniques seen in Electro House. The major difference between Nu Disco and Electro House is it has a much slower tempo. Nu Disco tempos vary from 100 to 115 beats per minute. Nu Disco is also not DJ-Friendly because the introgrooves and outrogrooves contain dissimilar drum and instrument patterns. However, it is a common practice for DJ's to speed up Nu Disco songs and blend them into Electro House songs.

From 0:00 to 0:37, the song contains an atmospheric pad that builds up in volume. Pads are a type of electronic sound that sustains notes for long periods of time. Pads are often used to set an eerie or ghostly mood. The pad abruptly stops with the introduction of drums and bass during introgroove 1 (0:40). After the two introgrooves, the build-up appears with the same pad as the beginning. The build-up also contains a robotic voice and a high-pass filter on the main bass line, which grows volume to aid the build-up. The hook section of the song contains only the unfiltered bass-line and drums. This hook section sounds minimalistic compared to the hook sections of the other case studies because it does not contain a complex drum pattern. At Hook B1 (2:08), the bass-line is

layered to sound more powerful. The hook section lasts for 24 measures, with an 8 measure interlude that transitions into the second build-up. Build-up 2 (2:53) introduces a piano riff which is a derivative of the bass-line in Hook A1 (1:31). It transitions into a section that contains a singer with and new instrumentation. As this sections fades away at 3:33, the familiar build-up pattern re-emerges. This section is identical to the Build-up 1 (1:15). The following hook portion (Hook A2 and Hook B2) are identical to the earlier hook portion (Hook A1 and Hook B1). Outrogroove 1 (5:11) continues with the non-layered bass-line of the hook. This lets the listener know that the song is deconstructing. At the fade section, the song has ended, but some instrument sounds continue to echo for an extended duration.

C. ANALYSIS AND DISCUSSION

By examining the case studies, different methods used to transition between sections were identified. As discussed, different genres used different production techniques to complement each transitional section. In the song "Kawaii – Re-lectro Extended Mix "by Vitodito & Oza, the build-ups contain the use of "risers" to help these transitions perform smoothly. Risers are a type of sound effect that increases in pitch the longer that the note is pressed. This note is played during the last few measures of a section. It builds tension for the track with its dynamics in the production. Some techniques of risers include reversing a cymbal crash, filtering static, or transposing a pad sound. For this specific song, the riser takes the form of a lead layered with high-frequency static. After the end of the measure, this note pitches downward, starting at the same time as the kick. In the song "By Your Side" by Big Chocolate, Big Chocolate

crafts his build-ups by reverberating the instrumentation and pitching the song frequencies downward. As the section nears the end, the reverberation pitches back upward suddenly. During the build-up portion, there is no sub bass. The next section is entirely devoid of reverberation on the instrumentation. The sub bass is reintroduced during the hook sections. For the song "Light Years Away" by Oliver, the methods of the build-up section use a variety of different drum patterns with an underlying reverse cymbal to build tension (0:55). As the song progresses, these methods rely solely on drum patterns (4:13). There is also a vocal sample ("Light Years Away") that distinguishes a transition into the hook sections. This vocal sample repeats the same words at the title of the song. This enables the song to easier uphold a catchy "dance-like" feeling as well as being memorable to the listener or audience.

The tempos of each song in the cases studies are another major indicator of the genre differences. "Light Years Away" is composed at a tempo of 102 beats per minute. Songs that fall under the Nu Disco category range from 100 to 115 beats per minute. "By Your Side" is composed at a tempo of 75 beats per minute. Trap music such as this song have a tempo range from 70 – 100 beats per minute. The song "Kawaii – Re-lectro Extended Mix" is the fastest of the three case studies. It maintains 130 beats per minute. As stated in the name, Electro House is a derivative of House. The tempos have retained their numbers despite the reclassification of the new genre.

Each song focuses on different instruments and sounds to create a unique theme. In "Kawaii (Re-Lectro Extended Mix)", the theme is the catchy melody that invites listeners to dance along. With a melody that is composed of many sounds on the

frequency spectrum, it provides a strong and dominant pattern that all production techniques are centered upon. In "By Your Side," there is percussion, sub bass, and the vocal chops, but no pads, leads, keys, or other electronic instruments throughout the song, because Trap music is generally more minimalistic compared to other EDM genres. The chord progression are also more simplistic. The melody repeats the same notes (the vocal chops), focusing on the pattern to deliver an entertaining composition. Listeners enjoy this type of music due to its repetitive notation. In "Light Years Away," the song contains more instrumentation than Trap music, but inputs this composition sparingly. This genre focuses heavily on dynamics, and building-up the hook section by removing instrumentation, rather than adding them. In doing so, the remaining instruments are emphasized by "frequency-layering." Frequency layering is the process of adding many sounds to the same music part in order for the specific pattern to stand out. This is similar to a conductor assigning multiple sections the same part in a musical piece. The clarinets, flutes, saxophones, and French horns may all be playing the same notes in unison to drive a melody. In EDM, this causes a section to be loud while contain gaps of silence in between the notation. Nu Disco songs such as "Light Years Away" add reverb, and simplistic drum patterns to these sections that give this genre its unique theme. Hook C (3:10) of the song represents this description best.

CHAPTER V

SUMMARY

In the future, production techniques for a specific genre may evolve, expand to other genres, or create a new genre entirely. Therefore, categorizing a song by identifying the production techniques or arrangement alone is unreliable. The current trend in EDM music has caused these techniques to develop separately, but they can easily transcend to other genres. For example, a music producer can create a Trap song with Electro Housestyle risers and still classify the song as Trap. Where are the guideline that dictates a song's classification? Through analysis of the case studies, this thesis concludes that production techniques and song arrangement alone cannot be used to identify a song's genre. However, by combining production techniques, key, time signature, tempo, and song arrangement, a song's genre may be easier to define. The case studies explain obvious differences in song structure transitions, tempo, and theme focus, but these can be misleading. Because of the fast innovation in EDM music, all three of these possibilities may happen simultaneously. The Internet enables music producers and DJs to discover new music every day. This makes it possible for production techniques to spread to new audiences and producing unlimited potential for inspiration.

REFERENCES

Antrax. Viruz. (2014) Frisco Sea of Love (Techno Kitten Adventure). Digital Recording. https://soundcloud.com/antrax-viruz/frisco-sea-of-love-techno?in=josueplazathesis/sets/whered-you-find-this-honors

Arthur, P. (2013, October 1). The EDM bubble: What caused it. Retrieved April 18, 2015, from http://edmexclusives.com/the-edm-bubble-what-caused-it/

Bartlett, B., & Bartlett, J. (2009). *Practical recording techniques: The step-by-step* approach to professional audio recording (5th ed.). Burlington, MA: Focal Press.

Braunstein, P. (1999). Disco. American Heritage, 50(7), 43.

Cheeseman, P. (2003, December 28). The History of House. DJ Magazine.

Della, M. (2012, June 4). DJ David Guetta leads the EDM charge into mainstream. USA

Today. Retrieved March 22, 2015, from

http://usatoday30.usatoday.com/life/music/news/story/2012-06-05/david-guetta-brings-electronic-dance-music-mainstream/55385368/1

DIGITAL AUDIO WORKSTATIONS. (2014). Mix, 38(3), 36.

- Feinstein, D., & Ramsay, C. (2012, October 1). The Rise of EDM. Retrieved March 13, 2015, from http://www.thembj.org/2012/10/the-rise-of-edm/
- Ferreira, C. L. (2013). Music production [electronic resource]: recording: a guide for producers, engineers and musicians / Carlos Lellis Ferreira. Burlington, MA: Focal Press, 2013.
- Gervais, R. (2006). Home recording studio [electronic resource]: build it like the pros / by Rod Gervais. Boston, Mass.: Thomson Course Technology, c2006.
- Glazer, J. (2014, October 10). Etymology of EDM: The Complex Heritage of Electronic Dance Music. Retrieved March 19, 2015, from https://medium.com/cuepoint/etymology-of-edm-the-complex-heritage-of-electronic-dance-music-d3e3aa873369
- Hampp, A. (2014, May 21). EDM Biz Worth \$6.2bn (Report). Retrieved March 13, 2015, from http://www.billboard.com/biz/articles/6092242/edm-biz-worth-62bn-report
- Holt, F. (2007). Genre in popular music [electronic resource] / Fabian Holt. Chicago: University of Chicago Press, 2007.

International Music Summit, *IMS Business Report 2014*. Ibiza: N.p., 2015. Web. 27 Mar. 2015.

JUST HOW BIG IS EDM?. (2013). Music Trades, 161(10), 68-74.

- KARPETZ, J. (2014). COMPETITIVE REMIX PRACTICE AND NETWORKS OF SUPPORT IN ELECTRONIC DANCE MUSIC ECONOMIES. Dancecult:

 Journal Of Electronic Dance Music Culture, 6(2), 22-41. doi:10.12801/1947-5403.2014.06.02.02
- Lawler, S. (2015) House Record. Digital Recording.

 https://soundcloud.com/mixmag-1/premiere-steve-lawler-house-record?in=josueplazathesis/sets/whered-you-find-this-honors
- MADDEN, D. (2012). CROSS-DRESSING TO BACKBEATS: The Status of the Electroclash Producer and the Politics of Electronic Music. Dancecult: Journal Of Electronic Dance Music Culture, 4(2), 27-47.
- M Gosselin. (2006, May 4). Jim Morrison The Future of Music. Retrieved from https://www.youtube.com/watch?v=iS3dIyHpAgc
- OAKES, S., & NORTH, A. (2013). Dance to the Music! How Musical Genres in Advertisements Can Sway Perceptions of Image. Journal Of Advertising Research, 53(4), 411-416. doi: 10.2501/JAR-53-4-411-416

- Pietroluongo, S. (2013, January 17). New Dance/Electronic Songs Chart Launches With Will.i.am & Britney at No. 1. Retrieved April 12, 2015, from http://www.billboard.com/articles/news/1510640/new-danceelectronic-songs-chart-launches-with-william-britney-at-no-1
- Plaza, J. (2015). Debtors [Covo]. Owl Eyes. Digital Recording.

 https://soundcloud.com/covoofficial/debtors-originalmix?in=josueplazathesis/sets/whered-you-find-this-honors
- Plaza, J. (2015). Fall & Blue [Covo]. Owl Eyes. Digital Recording. https://soundcloud.com/covoofficial/covo-fall-blue?in=josueplazathesis/sets/whered-you-find-this-honors
- Plaza, J. (2015). The Badmouth Calls [Covo]. Owl Eyes. Digital Recording. https://soundcloud.com/covoofficial/covo-the-badmouth-calls?in=josueplazathesis/sets/whered-you-find-this-honors
- Research, G. (2010, January 1). Google Music Timeline. Retrieved March 27, 2015, from http://research.google.com/bigpicture/music/#DANCE_ELECTRONIC
- Rietveld, H. (2000, July 1). The Body and Soul of Club Culture. UNESCO the Courier, 28-30.
- Savage, J. (1993, January 1). Machine Soul: A History of Techno. The Village Voice.

Sicko, D. (2010). Techno rebels the renegades of electronic funk (2nd ed.). Detroit, Mich.: Wayne State University Press.

Sisario, B. (2012, April 4). Electronic Dance Concerts Turn Up Volume, Tempting
Investors. The New York Times. Retrieved March 22, 2015, from
http://www.nytimes.com/2012/04/05/business/media/electronic-dance-genre-tempts-investors.html?_r=2&pagewanted=all

Sherburne, P. (2011, September 13). The New Rave Generation. Spin Magazine.

Snoman, R. (2014). Dance music manual [electronic resource]: tools, toys, and techniques / Rick Snoman. Burlington, MA: Focal Press, 2014.

Swire, R. Mcgrillen, G. (2014) Power Glove [Knife Party]. Haunted House. Digital Recording.

https://soundcloud.com/knifepartyinc/knife-party-powerglove?in=josueplazathesis/sets/whered-you-find-this-honors

The Crown Prosecution Service. (1994). Powers to remove trespassers on land – Powers to remove persons attending or preparing for a rave. Criminal Justice and Public Order Act 1994. Her Majesty's Stationery Office. 1994.