

**ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL OF ARTS AND  
SOCIAL SCIENCES**

**RELATIONSHIP BETWEEN SAMPLE SELECTION  
AND TECHNOLOGICAL DEVELOPMENTS OF SAMPLERS  
IN SAMPLE BASED HIP-HOP**

**M.A. THESIS**

**Kerem ERGENER**

**Department of Music**

**Music Programme**

**JUNE, 2019**



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**İSTANBUL TEKNİK ÜNİVERSİTESİ ★ SOSYAL BİLİMLER ENSTİTÜSÜ**

**ÖRNEKLEMeye DAYALI HIP-HOP MÜZİKTE ÖRNEK SEÇİMİ VE  
ÖRNEKLEYİCİLERİN TEKNOLOJİK GELİŞİMİ ARASINDAKİ İLİŞKİ**

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Kerem Ergener, a M.A. student of ITU Graduate School of Arts and Social Sciences student ID 409161110, successfully defended the thesis/dissertation entitled “The Relationship Between Sample Selection and Technological Developments of Samples in Sample-Based Hip-Hop”, which he prepared after fulfilling the requirements specified in the associated legislations, before the jury whose signatures are below.

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**Date of Defense : 13 June 2019**



*To my grandparents, Keriman and Ahmet Erdoğan Sakarya,*



## FOREWORD

In my childhood, the vinyl record was in its silent period. I bought my first vinyl record in 2010 and it was a reissue of Pink Floyd's "Dark Side of The Moon". I didn't have a turntable, but I bought it anyways. When I moved to Istanbul for my undergraduate degree in 2011, I started to collect vinyl and until 2012 I did it with so little of knowledge. This changed with the opening of Kontraplak Record shop in Istanbul. The shop owner Okan Aydın changed my point of view by introducing me to new genres and new artist through his knowdlege and my research and digging. I became a big collector with a new understanding of music. Even though I got musical training in piano and drums, I wasn't aware the realm of possibilities out there. Okan introduced me to electronic music, which led to my own productions and changed my academic road to sonic arts from engineering. While I dig further through the records one genre came forward and it was hip-hop. In my earlier life I was more rock oriented and in my childhood home my mother often played classical and jazz music through the speakers. Hip-hop helped me to connect with my building blocks, the music I loved through my life. Hip-hop is never just hip-hop. You can find every voice out there in it. My digging got more personalized with collecting rare records, especially those of Turkey that inspired me to search for new music to open my horizon.

My digging shaped my production and get to a direction more focused on sampling. I tried every synthesizer out there digital, analog and modular. I couldn't find what I get from sampling through synthesised sounds. While I dig and collect, I start to notice something. I getting any Turkish records produced after 1983 that often. Even though I find some, they were often not worthy of my time or they were not worth to sample. This interesting observation led me to investigate hip-hop producers' works. Even though they are collecting records from any time frame, records from which period their sampling choices focuses on? While investigating that I started to gather equipment as well to understand great producers' compositional styles. I was lucky enough to get my hands-on two Technics SL-1210, Akai MPC2000 and Roland SP-404 used extensively by hip-hop producers.

This research gives my insight on sampling practice among hip-hop producers. Their choice of samplers' changes overtime but their obsession with samples from a certain period taken from a certain medium generally do not change. While I explain the reasons, you can also find couple of new theories that I produced. My results have been gathered through both subjective and objective data. My personal journey and my collective experience on samplers and collecting vinyl records has helped me a lot through the writing process. Therefore I thank Okan Aydın for sharing his love for music, Haluk Damar for mentoring me through building my collection with his incredible knowledge on Turkish records, Yahya Burak Tamer for introducing me to music production, Will Summits for his undivided help on writing and Reuben de Lautour for giving me the opportunity to pursue my dreams in music.



## TABLE OF CONTENTS

	<u>Page</u>
<b>FOREWORD</b> .....	<b>ix</b>
<b>TABLE OF CONTENTS</b> .....	<b>xi</b>
<b>ABBREVIATIONS</b> .....	<b>xiii</b>
<b>SYMBOLS</b> .....	<b>xv</b>
<b>LIST OF TABLES</b> .....	<b>xvii</b>
<b>LIST OF FIGURES</b> .....	<b>xix</b>
<b>SUMMARY</b> .....	<b>xxi</b>
<b>ÖZET</b> .....	<b>xxiii</b>
<b>1. INTRODUCTION</b> .....	<b>25</b>
<b>2. LITERATURE REVIEW AND OVERVIEW OF SAMPLING</b> .....	<b>29</b>
<b>2.1 Literature review</b> .....	<b>29</b>
<b>2.2 Sampling in music</b> .....	<b>31</b>
2.2.1 Sampling in music technologies.....	31
2.2.2 Sampling in music production .....	32
<b>3. TECHNOLOGICAL TIMELINE OF SAMPLERS</b> .....	<b>36</b>
<b>4. BRIEF HISTORY OF SAMPLING IN HIP-HOP</b> .....	<b>46</b>
<b>4.1 Sampling in beginning of hip-hop</b> .....	<b>46</b>
<b>4.2 Intellectual Property Laws</b> .....	<b>48</b>
<b>4.3 Current trends in hip-hop sampling</b> .....	<b>50</b>
4.3.1 Danny Brown (Paul White).....	50
4.3.2 Earl Sweatshirt .....	51
4.3.3 Kanye West .....	52
<b>5. SOURCE IS VINYL, VINYL IS THE MEDIUM</b> .....	<b>55</b>
<b>5.1 Digging for samples</b> .....	<b>55</b>
<b>5.2 Importance of press</b> .....	<b>57</b>
<b>5.3 Interaction with turntables</b> .....	<b>59</b>
<b>5.4 Ethics</b> .....	<b>61</b>
<b>5.5 Importance of label</b> .....	<b>62</b>
<b>5.6 Nostalgia</b> .....	<b>63</b>
<b>6. DOES TECHNOLOGY CHANGE WHAT WE SAMPLE?</b> .....	<b>66</b>

<b>6.1 Investigation of data</b> .....	<b>66</b>
<b>6.2 The data</b> .....	<b>68</b>
6.2.1 Top 100 most sampled records.....	68
6.2.2 Top 50 greatest hip-hop samples of all time .....	70
6.2.3 100 greatest hip-hop songs of all time.....	70
<b>6.3 Analysis of data</b> .....	<b>73</b>
<b>7. CONCLUSION</b> .....	<b>75</b>
<b>REFERENCES</b> .....	<b>79</b>
<b>APPENDICES</b> .....	<b>84</b>
<b>APPENDIX A</b> .....	<b>85</b>
<b>APPENDIX B</b> .....	<b>91</b>
<b>APPENDIX C</b> .....	<b>95</b>
<b>APPENDIX D</b> .....	<b>106</b>
<b>APPENDIX E</b> .....	<b>109</b>
<b>APPENDIX F</b> .....	<b>116</b>
<b>CURRICULUM VITAE</b> .....	<b>135</b>

## **ABBREVIATIONS**

<b>MIDI</b>	: Musical Instrument Digital Interface
<b>DAW</b>	: Digital Audio Workstation
<b>CMI</b>	: Computer Musical Instrument
<b>LP</b>	: Long Play
<b>KHZ</b>	: Kilohertz
<b>RPM</b>	: Revolution Per Minute
<b>IP</b>	: Intellectual Property
<b>MPC</b>	: MIDI Production Center



## **SYMBOLS**

**\$** : US Dollars



## LIST OF TABLES

	<u>Page</u>
<b>Table 6.1</b> : Major developments in hip-hop.....	<b>67</b>
<b>Table A. 1</b> : Top 100 most sampled records of all time.....	<b>85</b>
<b>Table B. 1</b> : Number of samples according to time period of the records produced after 1982 from 100 most sampled records list.....	<b>91</b>
<b>Table D. 1</b> : Kon + Amir Present: The 50 Greatest Hip-Hop Samples of All Time.....	<b>106</b>
<b>Table E. 1</b> : 100 Greatest Hip-Hop Songs of All-Time list.....	<b>109</b>



## LIST OF FIGURES

	<u>Page</u>
<b>Figure 2.1</b> : Sound quality visualization according to bit depth.....	<b>30</b>
<b>Figure 3.1</b> : Mellotron.....	<b>37</b>
<b>Figure 3.2</b> : Tape loops inside of Mellotron.....	<b>37</b>
<b>Figure 3.3</b> : Fairlight CMI and its operation.....	<b>38</b>
<b>Figure 3.4</b> : Roland TR-808.....	<b>39</b>
<b>Figure 3.5</b> : J Dilla's mother Ma Dukes showing J Dilla's Akai MPC3000 and MoogVoyager.....	<b>40</b>
<b>Figure 3.6</b> : Technics 1210 turntable.....	<b>41</b>
<b>Figure 4.1</b> : J Dilla produing in front of his Akai MPC3000.....	<b>47</b>



# RELATIONSHIP BETWEEN SAMPLE SELECTION AND TECHNOLOGICAL DEVELOPMENTS OF SAMPLERS IN SAMPLE BASED HIP-HOP

## SUMMARY

This study investigates the relationship between sampler's technological advancement and sample selection amongst hip-hop producers that produced using samples. For investigating this relation, the research focuses on three subjects: instrument, medium and sound.

Instrument selection is investigated with a quick look into the sampler's historical developments, their users and their work flow. Hip-hop's medium of choice, the vinyl record, is investigated with regards to the reasons of its use. These reasons include working principle of turntables, ethics and nostalgia. Samplers' operations and sampling technology helps to eliminate debates for analogue and digital recording in matter of sampling. Although arguments for superiority of vinyl records given often, this superior of sound has been set aside and arguments on producers' compositional choices are considered.

In the chapters on sound, data taken from three resources is presented. These data have been built around personal and data-based lists including most sampled records, greatest samples and best hip-hop songs. These lists are chosen because of their diversity and curators and if we look at other curated lists, we can observe the same songs start to appear. Therefore, in this research focus on most objective lists in a subjective field has been chosen. Even in the most subjective one, list of greatest hip-hop songs, is chosen because of its curators that include over 30 hip-hop producers.

The result indeed shows a correlation between sample selection for structural samples, the samples that has melodic or rhythmical aspects, and records produced before 1982/1983 as the sample source. This correlation is not always obvious. Further investigation of samples gives us a theory called "Russian doll theory". If we investigate a sample-based song, most of the time we see a sample from a record produced before 1982/1983. If we find a sampled record produced after 1982/1983, when we investigate the sampled record we see one of three thing: 1) the sampled song is a cover of another song that produced before 1982/1983, 2) the song is a remix of song that produced before 1982/1983 or 3) the song also uses samples from records produced before 1982/1983. The used samples may not always be from a song produced before 1982/1983 but if we investigate that song as well, we certainly find another sample produced before 1982/1983. This phenomenon sometimes can go back a couple of times over. That's why the theory is "Russian doll theory" of sampling, like Russian dolls that have another smaller doll inside, sometimes samples carry other samples and they always go back to a sample taken from a song produced before 1982/1983. The breaking point shows the years 1982/1983 and these dates make sense because the commercial introductions of samplers began during the early half of 80's. This study demonstrates changes that happened with the emergence of samplers in every genre and we can observe the change in production. Hip-hop production gives us the best observation ground for this change. This situation creates questions on the recording standards of period before 1982/1983 and the change of production before 1982/1983 with introduction of samplers.



# ÖRNEKLEMESİNE DAYALI HIP-HOP MÜZİKTE ÖRNEK SEÇİMİ VE ÖRNEKLEYİCİLERİN TEKNOLOJİK GELİŞİMİ ARASINDAKİ İLİŞKİ

## ÖZET

Bu araştırma örnekleyicilerin teknolojik gelişimi ve hip-hop müzikte kullanılan örneklerin prodüktörler tarafından seçimi arasındaki ilişkiyi incelemektedir. Bu ilişkiyi üç başlık altında incelenmiştir. Bu başlıklar: enstrüman, mecra ve sestir.

Enstrüman seçimi örnekleyicilerin tarih boyunca gelişimi, kullanıcıları ve kullanım biçimleri ile anlatılmıştır. Hip-hop müziğin örneklemeyi tercih ettiği mecra olan plağın kullanım sebepleri incelenmiştir. Bu sebepler pikapların kullanım şekli, etik ve nostalji gibi konuları kapsamaktadır. Örnekleyiciler ve örnekler ile ilgili verilen tanımlar, analog ve dijital kayıtlarla ilgili verilen ve çoğunlukla plağa kaydedilmiş müziğin ses kalitesinin üstünlüğü ile sona eren tartışmaları yer vermemek içindir. Plağın ses kalitesinin üstünlüğü ile ilgili savlar bir kenara bırakılıp prodüktörlerin besteleri sırasında örnekler üzerinde verdikleri yaratıcı kararlar göz önüne alınmıştır.

Ses ile ilgili bölümlerde üç kaynaktan alınan veriler sunulmuştur. Bu veriler hem öznel hem nesnel listelerden seçilmiştir. Bu listeler en çok örneklenmiş şarkılar, en iyi örnekler ve en iyi hip-hop eserleri altında toplanmış şarkılardan oluşmaktadır. Bu listeler müphem görünebilir ancak hem öznel hem nesnel verilere baktığımızda liste sayısı arttıkça benzer eserler görülmeye başlamaktadır. Bu yüzden öznel bir seçim alanında en nesnel görülebilecek veriler seçilmiştir. En öznel liste olarak sayılabilecek olan en iyi hip-hop eserleri listesi alanının önde gelen 30 hip-hop prodüktörü tarafından seçilmiştir ve bu seçim listelerin müphemliğini yok etmektedir.

Sonuç, örneklemeye dayalı hip-hop müzikte yapısal örneklerin seçiminde 1982/1983 yıllarından önce üretilmiş eserlere bir odaklanma göstermektedir. Bu odak bazen ilk bakışta görülmez. Örneklerin daha köklerine inmek “matruşka teorisi” adını verdiğim bir teoriyi ortaya çıkarmaktadır. Örneklemeye dayalı yapılmış bir şarkıya bakarsak 1982/1983 yıllarından önce yapılmış bir şarkıya rastlarız. Ender durumlarda böyle bir örneğe rastlamasak bile örneklenen şarkıyı incelersek örneklenen şarkının 1982/1983 yıllarından önce üretilmiş bir şarkının yeniden düzenlenmesi olduğunu veya 1982/1983 yıllarından önce üretilmiş şarkının örneğini içerdiğini görürüz. Bu durum bize örneklemelerin “matruşka teorisini” sunar. Matruşka bebeklerin içinde gittikçe küçülen bebekler olması gibi bu tür örneklerin içinde kendilerinden önce üretilmiş başka örnekler buluruz. Bu durumun kırılma noktası bize 1982/1983 yılları arasında göstermektedir ve bu tarih mantıklıdır çünkü örnekleyicilerin kullanılmaya başlanması 80’li yılların ilk yarısında gerçekleşmiştir. Bu araştırma örnekleyicilerin gelişiminin, örnek seçiminde görünen 1982/1983 yıllarından önceki şarkılardan alınan örneklerle olan odakla bir ilişkisi olduğunu göstermektedir. Örnekleyicilerin kullanılmaya başlaması her türde yapılan müzikleri etkilemiştir ve bu durum hip-hop müzikte örneklerin seçimiminin sebeplerini sorgulayan sorular sormaktadır. Bu sorular, 1982/1983 yıllarından önce yapılan prodüksiyonların kayıt standartlarının incelenmesi ve örnekleyicilerin ortaya çıkmasının ardından stüdyo prodüksiyonunun değişimi gibi konuların araştırmaların gerekliliğini öne sürmektedir.



## 1. INTRODUCTION

In 1991, grunge music pioneer Kurt Cobain states, “Rap music is the only vital form of music introduced since punk rock” (Cobain, 1991). You might think it is a bold statement but the mainstream following of rap music or more specifically hip-hop shows he wasn’t wrong at all. Hip-hop has become the main genre that identifies lifestyles, entertainment, thinking and fashion of 21st century. Influence of hip-hop artists’ or in hip-hop terms producers on daily life cannot be overlooked.

Cobain’s words also do hold up for another reason that lies in the production of hip-hop song since the beginning of hip-hop. Hip-hop heavily relies on other pre-recorded music. Taking sounds from early productions and creating something new has always been a part of hip-hop production. Even when we look at the early days, we find turntables and DJs that were manually getting sound chunks from records and manipulating them by hand, or in other words scratching. Samplers have always been the main instruments that been used in hip-hop production. That’s why Cobain’s words also give us an insight as to what hip-hop is actually is: it is a point of view to all the records ever been produced before. In a presentation, producer Mark Ronson says:

I can hear something that I love in a piece of media and I can co-opt it and insert myself in that narrative, or alter it, even. In a nutshell, that's what I was trying to do with these things, but more importantly, that's what the past 30 years of music has been. That's the major thread. See, 30 years ago, you had the first digital samplers, and they changed everything overnight. All of a sudden, artists could sample from anything and everything that came before them, from a snare drum from the Funky Meters, to a Ron Carter bass line, the theme to "The Price Is Right." Albums like De La Soul's "3 Feet High and Rising" and the Beastie Boys' "Paul's Boutique" looted from decades of recorded music to create these sonic, layered masterpieces that were basically the Sgt. Peppers of their day. And they weren't sampling these records because they were too lazy to write their own music. They weren't sampling these records to cash in on the familiarity of the original stuff. To be honest, it was all about sampling really obscure things, except for a few obvious exceptions like Vanilla Ice and "doo doo doo da da doo doo" that we know about. But the thing is, they were sampling those records because they heard something in that music that spoke to them that they instantly wanted to inject themselves into the narrative of that music. They heard it, they wanted to be a part of it, and all of a sudden they

found themselves in possession of the technology to do so, not much unlike the way the Delta blues struck a chord with the Stones and the Beatles and Clapton, and they felt the need to co-opt that music for the tools of their day. You know, in music we take something that we love, and we build on it (Ronson, 2014).

Specific sounds or samples in hip-hop production are chosen in compositional process because of different reasons but “being part of the narration” gives us a perspective on what other parameters effects on this selection.

Instruments for using these sounds, samplers, have developed at an incredible technological speed since their arrival, and have changed not only hip-hop’s but every other genre’s view on production. Samplers gives a way of manipulating sounds to the hand of the producer that only limited by their imagination. An example of this can be seen in Kanye West’s work. Even though his productions happen in a big studio with many talented artists surrounding him and his resources to reach any instrument and instrumentalist, he still uses samplers. A sampler called Akai MPC Live which is the successor of the most well know sampler and per say genre creator Akai MPC60. Sampling creates the main ground for hip-hop production and use of samplers shows us many things in matter of composition process.

The medium of the sound source also carries an importance when it comes to the sampling in hip-hop. In hip-hop main medium for sampling lies in the grooves of vinyl records and still in this day vinyl record carries its importance in sampling for many reasons like ethics, aesthetics and the way they operate. For producers, vinyl records have always been a source of influence and their collection has been a way to authenticate their musical knowledge.

In this research we are going to investigate the roots of sample and sampling. We are going to look at the sample-based hip-hop production from 3 perspective: medium, instrument and sound.

In examining the medium, we are going to investigate producers’ obsession with vinyl records as their go to medium and look at the reason why it has been and still is. When it comes to arguments including vinyl records, we often hear arguments about analogue sound. In this research, we are also going to investigate why analogue vs. digital arguments does not make any sense in when it comes to hip-hop sampling.

In considering the instrument, we are going to investigate the background of samplers and sampling practice. While we look at their evolution, we also going to look at drum

machines, DAWs and their use in today's productions. When we look at their technological development, we see many advancements not only in their use but also in sound processing technology. We are also going to examine the most used samplers work flow and their heritage.

In regard to sound, we are going to question the origins of samples. In the chapters on sound, we are going to see sample-based hip-hop's obsession with sampling records produced from a period before samplers with data both from curated lists of most sampled records and greatest hip-hop songs. We are going to investigate this phenomenon at length and we are going to see "Russian doll" theory that shows records produced after the dawn of samplers still relies on the records produced before the dawn.

These perspectives give the main aim of this research by asking a question: does the technological development of samplers changes the sample selection? As we are going to investigate in this research there are many samplers and producers that work with these instruments. Therefore, it is impossible to look every single producer. We are going to focus on samples and songs that created the genre and are seen as ground-breaking or genre-defining amongst experts.

The goal of this research lies on creating a data-based ground that finds an era for used samples in hip-hop and to lead other researchers to investigate the possible reasons of this focus on sampled material. A list of possible reasons also can be found while we investigate the medium, but we shouldn't forget that these are possible reasons and they have to be investigated one by one. This research focuses on the proof of the obsession for a sound before samplers exists and it is sometimes cannot be seen in the first sight. In these situations, further digging is necessary and almost every time it takes us to a different source that is called "Russian doll theory".

In the next few chapters we are going to investigate literature written on hip-hop and sampling by considering the authenticity of hip-hop and meaning of sampling in music technologies and production perspectives.



## 2. LITERATURE REVIEW AND OVERVIEW OF SAMPLING

### 2.1 Literature review

In literature, there are many works on hip-hop and hip-hop's history. Generally, when we see an article or a book on hip-hop, we find an overview on turntablism and how hip-hop first emerged. Hip-hop story is narrated in depth in Netflix documentary "Hip-Hop Evolution" with narration by hip-hop producer Shad (Peters, McFadyen, Dunn, & George, 2018). This documentary includes all the of the most important DJs, producers and radio hosts through hip-hop's history and tells the progress through their mouth but in this documentary, it is hard to see anything on digging or sampling.

Another documentary on Netflix called "Stretch and Bobbito: Radio That Changed Lives" (Garcia, 2015) tells the story from more focused corner. We watch the hip-hop's evolution through eyes of the most well-regarded radio host of the time, in a period that new work only can be distributed from radios. In this documentary, there is a part that they were showing some samplers and Bobbito and Stretch Armstrong are saying they had invited producers to the show to make beats live with samplers. They also add they were the first one ever did this kind of live beat making which became more mainstream in the last couple of years with YouTube streaming.

In written media, it's once again possible to find many interesting works that tell history of hip-hop. Books like *Can't Stop, Won't Stop* (Chang, 2013) investigates the history deeply with the important developments in hip-hop's history like east versus west rivalry.

Because hip-hop's roots are so deeply connected to African-American culture it is possible to find works like *The Hip Hop Wars: What We Talk About When We Talk About Hip-Hop and Why It Matters* (Rose, 2017), and *Black noise: Rap music and black culture in contemporary America* (Rose, 1994) that talks about the black culture and its effects on hip-hop music.

Although these works give us a great insight on hip-hop music's history and roots, they do not provide great deal on compositional process of the producers and authenticity. McLeod's work called *Authenticity Within Hip-Hop* (McLeod, 1999) builds great ground for socio-economic aspect of hip-hop's authenticity on 5 main ground: socio-psychological, racial, political-economical, gender-sexual, social location and cultural. McLeod's work shows us these claims of authenticity in hip-hop matters through community and effects the success of the song. Although these socio-economic aspects of authenticity effects the end product, this does not give us any solid points on their compositional process. It only shows a strong correlation between cultural background of the producer and their music which can lead to a strong tendency on choice of sample through the music loved by the ethnic group they are attached to. A Turkish producer prefers samples from the Turkish scene that they grew up in but an African-American producer could prefer a sample from a soul record instead.

This cultural selection of sample is further investigated in a paper by Demers called *Sampling the 1970's in Hip-Hop* (Demers, 2003) which investigate the samples taken from genres like funk, soul and blues that built the lineage of hip-hop music and she asks questions on effects of Blaxploitation films' of the period which used these music as soundtrack heavily. Demers' research shows these films have had a strong effect on hip-hop's evolution and, producers and rapper's identity with names taken from these films or the behaviors, so called alter egos, that were built around Blaxploitation characters.

Also, Demers' book *Steal This Music* (Demers, 2006) talks about the intellectual property laws that effected producers because of unauthorized or unlicensed samples. She investigates the history of these laws against the with background of important lawsuits on the issue. These lawsuits include many big names like Beastie Boys and Busta Rhymes. This gives another perspective for the sampling process because of new obstacles put in front of producers. Although these obstacles effect the end product, they generally do not provide an obstacle in compositional process as we are going to investigate in next chapters.

These studies start to give us the background for compositional and sample material choices the producer gives but they do not help with sampled material and the medium. Schloss' book called *Making Beats* (Schloss, 2004) gives us the main ground on

compositional process of the hip-hop producer. Schloss touched on subjects like instrument selection's effect on authenticity, the search for records to sample, ethics and compositional aesthetics. Schloss' research provides a great starting point and a reference for the investigating compositional processes of sample-based hip-hop.

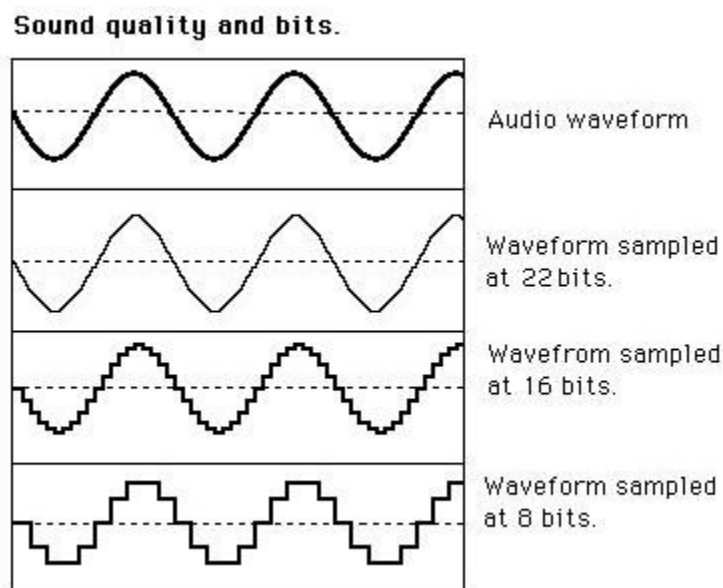
Lastly, Amanda Swell's thesis on typology of hip-hop gives us definitions for types of sampled material (Swell, 2013). She divides sampled material to three categories: structural, surface and lyrical samples. This helps to categorize and investigate samples accordingly. Structural samples build the main compositional underlining sounds. They include instrumental part of the song with riffs, basslines and drums. That's why if it is important to understand what kind of sample carries the weight in the sample-based song.

## 2.2 Sampling in music

In this chapter we are going to investigate what is a sample. First, we are going to define its meaning in music technologies and then we are going to investigate sampling in music production perspective.

### 2.2.1 Sampling in music technologies

To understand what sampling is, we first need to understand what a *sample* is. If we look at the definition sample of a signal processing perspective three concept comes forward: bit rate, sample rate and bit depth. These concepts are showing the quality of the recording in digital domain.



**Figure 2.1 :** Sound quality visualization according to bit depth.

Bit rate shows the quality of the stream. Higher bit rates show the higher quality of sound. Sample rate is identified as number of samples carried per second in kHz. Higher the bit and sample rate is the bandwidth (speed of received and sent data) gets bigger which gives us higher quality of sound. Bit depth shows the maximum amount of noise to signal ratio. Higher the bit depth is lower the noise. (Önen, 2007)

The goal of using higher sample and bit rates lies on reproducing as close to analogue as possible. Hi-Fi audio community always looks for better lossless or uncompressed versions of audio to reproduce the sound like it is first created in studio environment. Digital data builds upon discrete signals and for reproducing the digital data as close to analogue sound as possible we need to use DACs. These machines try to create the smoothest passage from one sample to another that creates more quality sound. With higher sample rate and bit rate we can create more smoother curves which gives us more realistic sounds.

Although the quality between 24 bit/44.1 kHz recording and 32 bit/192 KHz recording is certain in the digital domain, it's debatable in matter of human hearing perspective because of the limitation that the human ear can hear. According to the Nyquist sampling theorem for creating the original waveform or in other words the original sound, sampling frequency should be doubled (Roads, 2013). Human hearing spectrum lies between 20 Hz and 20 KHz. Therefore, using anything above 40 KHz do not make any sense. That's why using 44.1 KHz as a standard format makes sense and anything above it does not make a real sense. Although this is the physical reality there are many that argues that even though these frequencies are cannot be heard, they can be felt. If we look at it in a scientific way, we can see that these claims don't have a solid background especially if we consider the speakers in home use are built for reproducing sound between 20Hz to 20KHz bandwidth.

This definition does not carry any meaning in compositional perspective of sampling but it's important to understand the theory for get a feel for why the quality of a sample does not mean anything in composition process that we are going to investigate in later chapters.

### **2.2.2 Sampling in music production**

According the Curtis Roads, music can be described in 9-time scales. These scales as follows from smallest the largest: Infinitesimal, subsample, sample, micro, sound

object, meso, macro, supra, infinite. Roads defines “sample” as “the atomic level of digital audio system” (Roads, 2001). This definition not only gives the perfect technical information of a sample but also in musical terms this definition creates an understanding of what a sample means in music making. When we say “atomic level”, we can understand that samples create the building blocks of a song like atoms are the building block of matter. We can see it as the main material to build or we can also see it as “a paint”. In this sense Mr. Supremes’ 1998 interview exactly does that and makes a great analogy between sample and paint:

JOE: I wanted to get you to tell that story about when you were talking to your mother-in-law about painting...

MR. SUPREMES: Oh yeah, and we were arguing, because she was saying I didn’t make music. That it’s not art. . . . She really didn’t understand at all, and we argued for about two hours about it. Basically, at the end she said . . . if I took the sounds, it’s not mine—that I took it from someone.

And then I explained to her: What’s the difference if I take a snare drum off of a record, or I take a snare drum and slap it with a drumstick? OK, the difference is gonna be the sound. Because when it was recorded, it was maybe a different snare, or had a reverb effect, or the mic was placed funny. It’s a different sound. But what’s the difference between taking the sound from the record or a drum? It’s the *sound* that you’re using, and then you create something. You make a whole new song with it. And she paints, so I told her, “You don’t actually *make the paint*.” You know what I’m saying? “You’re not painting, because you don’t make the paint.” ... But that’s what it is; it’s like painting a picture. (Schloss, 2014)

Making an analogy between sample and paint, and painting a song creates perfect analogy for making a song using samples. If we are talking about sampling something, definition made by Will Fulford-Jones gives us the main view: “a process in which a sound is taken directly from a recorded medium and transposed onto a new recording” (Fulford-Jones, 2011). Especially for hip-hop this definition shows us the importance of medium when it comes to sampling. Although how can we agree upon legitimacy of the medium that producers use to sample?

When we look at sampling in more musical perspective, *Electronic Musician Magazine*’s 1986 issue gives us an interesting definition includes one of its roots: music concrete which we are going to investigate in next chapter.

Sampling is like magnetic tape recording in that both technologies involve the capturing, storing and recreating of audio (sound) waves. In fact, many of the standard terms associated with this technique (e.g. loop, splice, crossfade, etc.) have been borrowed directly from the

world of magnetic tape recording. Sampling is the digital equivalent of music concrete; wherein common sounds are manipulated (and sometimes integrated with traditional instruments) to produce musical compositions (Schloss, 2014).

Percussionist Mtume who played with well-regarded musicians like Miles Davis calls hip-hop “artistic necrophile” because of extreme use of sampling in hip-hop production (George, 2005). In sample-based hip-hop, the vinyl record takes the lead as the medium for sampling and the specific way to choose the vinyl and process it comes in our way. When we talk about vinyl records audiophile arguments come into place with talks like “warmer sound” or “superiority of analogue sound”. But the falsehood of these arguments when it comes to sampling can be seen through compositional process and our way of listening music. If that was the case, we wouldn’t be using our crappy iPhone headphones and Spotify in the first place and talking about fidelity of an analogue sound that digitally sampled creates an argument nonetheless oxymoronic. Of course, sampling rate matters when it comes to fidelity of the sounds but creating a good song does not need a high-quality sample. If we look at songs from 90’s that uses longer samples, we can see a method of playing LP’s in 45 rpm speed for get a longer sample in a shorter time frame because of samplers limited memory and later stretching the sample (taking a sample and by slowing down getting a longer sample) to get the original 33 ⅓ rpm sound as a common practice. This creates lower quality samples when sample is stretched.

In music production the choice of sample effects many interesting phenomena. The choice can come out of process of finding record, ethics, aesthetics or compositional choices that we are going to investigate with regards to the choice of medium.

For understanding the production process with samples first we need to understand the tools of audio sampling. Audio sampling technology is now available in every DAWs but historically their roots lies in many different systems and later on instruments. In the next chapter we’re going to look at its past and present.



### 3. TECHNOLOGICAL TIMELINE OF SAMPLERS

Before we investigate hip-hop's sampling we need to understand the history of sampling and for doing that first we need to understand what machines or "instruments" gave us the sampling. MF Doom says, "I consider myself a drummer if anything" (MF Doom, 2008). He is not the only one see himself as a drummer in hip-hop production. Playing a sample is not different than playing drums therefore we should look at the beginning of samplers' journey from drum machines.

Today most of the drum machines have or use one form of sampling. There I like to use the word "drum machine" almost synonymously with "sampler" because of their progress overtime and their use. Drum machines are generally has synthesized sounds, but we also see sampled sounds in some of these instruments. Today's drum machines like Elektron Analog Rytm mixes these two principles. The mix of those sounds first came out with drum machine Roland TR-909 that became synonymous with sound of Detroit house. They were the ones started to trend on programmability which made samplers became computers. Even if we look one of the most advance samplers today, on top of the Elektron Digitakt's screen "Digital Drum Computer and Sampler" can be seen. In this chapter we are going to look at early drum machines and samplers. Also, we are going to go deep on most important instruments' workflow to get a better understanding for the producers' compositional choices.

Rythmicon produced by Lev Thermen (or more well known as Leon Theremin, the inventor of electronic instrument works with magnetic field manipulation Theremin) and it counts as world's first electronic drum machine. Davies and Smirnov explains his working as follows, "The polyphonic keyboard had 17 keys, each of which, except the 17th, produced a single note repeated in a periodic rhythm for as long as it was held down; the 17th key inserted an extra beat in the middle of each bar. Each of the 16 rhythms could be produced individually or in combination, requiring 455 days, 2 hours, and 30 minutes to play all possible combinations, assuming a duration of 10 seconds for each" (Davies and Smirnov, 2016).

Rythmicon carries the importance for being the first drum machine and giving the idea for electronic drum machine. Only two Rythmicon has ever been produced that's why even though it counts as the first one it doesn't show up as first commercial. Chamberlin Rhytmate released in 1948 counts as the first commercial drum machine. Also, this machine importance lies in how it operates. Rhytmate uses 1-inch magnetic tape loops as its sound sources and a tape head that can read 14 separate drum patterns. That's why Rhytmate can be count as the first sample player. Another important detail lies in date. It's interesting that start of music concrete and Chamberlin's idea of using tape loops is on the same year. It is an unknown mystery of these two inventors share a year for their innovation. Is there a chance of influence or a multiple discovery? We might never know.

In 1949 musique concrète brings us the first academic work for sampling. Groupe de Recherches Musicales (GRM) in leadership of Pierre Schaeffer. The first sampling experiments were with phonographs and later with tape. Schaeffer's study called "Etude Aux Chemin de Fer" gives use one of the first examples of sampling with manipulation and looping of pre-recorded train sounds. On the other side of the pond, we have composers like John Cage working with tape and in Germany there are composers like Karlheinz Stockhausen also working with tape. These composer's works gives us the first recorded examples of sample-based music.

For tape-based music we should also mention William S. Burroughs with his tape-based music. Burroughs is known for his cut-up technique. In this technique you cut-up some words or sentences and copy them unconsciously to create something in writing which Burroughs applied it on music and tape as well. These kinds of technique can be also found in John Cage's music with a technique he calls chance operations. These kinds of tape edits still create the backbone of DAW production because the cutting and pasting a sample in a DAW in not unlike its predecessor.

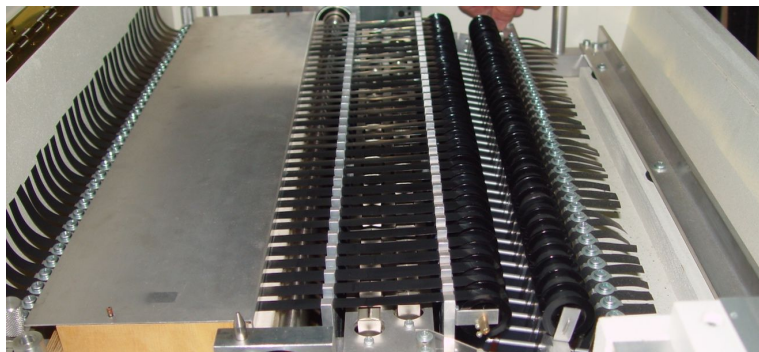
In 1960's with big developments in solid state transistors we start to see synthesis sound and storage possibility of sampled sounds digitally. Drum machines of that time was mainly made for accompany organ players with machines like Thomas Band Master Model 55 (1960's), Keiko-Giken (later known as Korg) Mini Pops Jr. (1963-1967) and Ace Tone FR-1 Rhythm Ace. These instruments carry lot of weight when it comes to technological development of drum machines but because in this era, we

don't see sampling technology for drum machine we need to look at another instrument that shaped one of the control methods of samplers for this period.



**Figure 3.1 : Mellotron**

Mellotron (Figure 3.1), first released in 1963, counts as the most well-known grandfather of samplers or the first analogue sampler. Instrument once again working with tape loops attached inside (Figure 3.2). This polyphonic instrument was made as a cheap alternative for entertainment with drum loops and melodic loops for leads. It was a revolutionary device, but its use makes it a machine that changed the industry. Notable users include Princes Margaret, Peter Sellers and King Hussein of Jordan but musician owners were the one that changed how it used. Most notable us of this instrument dates back to 1967. The Beatles hit “Strawberry Fields Forever” famously opens with sound of Mellotron. Also, Brian Jones, long deceased member of Rolling Stones, was known playing this instrument in his songs like “We Love You”. But I think it's most important use happens with its use in the sound of King Crimson (which same Mellotron later pass to band Genesis) due to sampling history of their songs by hip-hop producers (most notably Kanye West's *POWER*). (Davies, 2001)



**Figure 3.2 : Tape loops inside of Mellotron**

In 1979 first digital sampler finally was out. Fairlight CMI (Figure 3.3) was hit around music making communities with show and tell on TV in biggest TV shows of the era but 18,000 £ price tag (almost 100,000 £ with 2018 prices) it was hardly a commercial hit. It was widely used by big names like Peter Gabriel and John Paul Jones but other than that it was available in only in academic environments or in big studios, it never seen in streets or in hands of hip-hop producers. Throbbing Gristle member Peter ‘Sleazy’ Christopherson and founder of industrial band Coil makes the best description for Fairlight: “An aural equivalent of William S. Burroughs cut-ups.” (Coil, 2001) First vinyl sampling examples also can be found with help of this instrument. Its synth like capabilities with ADSR and polyphonic keyboard and its interface with a computer and touchscreen was truly revolutionary. (Leet, 1999)



**Figure 3.3 : Fairlight CMI and its operation**

We should note that even though Fairlight CMI is the first commercial machine using digital sampling it was not the first machine to use this technology. Mostly DIY systems were used by some musicians, but it was mainly for genres like industrial music. Peter ‘Sleazy’ Christopherson, one of the pioneers on industrial music, states he used digital samplers made by his bandmate Chris Carter before Fairlight ever introduced around 1976 (Christopherson, 1986). Although we should add they are not common cases and do not carry any commercial sense because of their rarity but they show around this time we start to see use of sampling more and more in music making.

In same time with help of microcontrollers computer-controlled drum machines were coming into market. The most well-known drum machine with its cult sound Roland TR-808 (Figure 3.4) is released in 1980. This drum machine was highly reachable in his first release and its synthesised sounds were so iconic and pop records of 80’s implemented its sound widely. This drum machine can be heard in countless records

but most notably can be found in Marvin Gaye’s “Sexual Healing” and Whitney Houston’s “I wanna Dance with Somebody”. The sound of 808 was so important for 80’s that it is also possible to hear its sound in works of hip-hop with artists like Public Enemy. 808’s sound became so iconic that it’s possible to hear its sound in today’s records generally not as the instrument but the sampled sound of the original. Even widely used DAW Ableton comes with a drum sample pack build with TR-808 (Dayal, 2014).



**Figure 3.4 :** Roland TR-808

In 1980, maybe the most important development for today’s samplers happened with release of a drum machine called Linn LM-1 and later in 1982 Linndrum that used by like Gary Numan, Michael Jackson and Prince. This device was revolutionary for its sound making. Linndrum used sampled sound for each part of the drum and manipulation of these sound was possible with front panel which give many sonic possibilities to the user and it was the first time. Also, it gives us one of the earliest examples of sample storage with solid state transistors (Davies, 2013).

After Linn drum, new instruments like Oberheim DMX (1982) using sample technology emerged and some like Roland TR-909 (1984) that use analogue and digital hybrid sound technology opened a new way of sequencing with new programmability and playability features. But these sampling capabilities were not enough for music makers. They lacked the feature of sample new sounds. User’s ability to choose their own sounds were going to shaped by a brand-new instrument.

Although samplers were starting to become more available two machines were bigger than every other, especially in hip-hop production: E-mu SP-1200 and later Akai MPC60. Both SP-1200 and MPC were big in hip-hop community but MPC had greater impact in today's music making because E-mu was difficult in matter of reach and it was more limitedly produced device that MPC. Also, we shouldn't forget the producers of the time were limited with the device that local Radio Shack stores has.

Akai MPC60 first introduced in 1988 and it was a game changer and an instant success. Created by Linn Drum inventor Roger Linn, MPC has become the favourite for any producers - most notably J Dilla - and the design affected the future generations of sampler and how we interact with them. Akai MPC's were such a success that many alterations and new models come to market with better sampling processor but the 4x4 grid like pads stayed the same and became inspiration for many MIDI controller producers after that (Laughton, 2017). This machine changed the game because first time in history it gave the producer a production station that producer can use anytime, he/she likes. Like Mr. Supreme says it's an amazing feeling even in 4 a.m. to do music without leaving the house (Schloss, 2014).



**Figure 3.5 : J Dilla's mother Ma Duker showing J Dilla's Akai MPC3000 and Moog Voyager**

When Akai MPC3000 (Figure 3.5) first came out it was a game changer because of its customization features and affordability. Many producers like Pete Rock, Dr. Dre, Q-Tip and J Dilla was early users of this machine. Thing that separated J Dilla from other

producers was his humanization of the MPC3000 (Laughton, 2017). J Dilla's approach to his Akai MPC3000 was like a "real instrument". In MPC3000's manual (although admittedly J Dilla never read the manual), introduction by his creator Roger Linn these words can be read: "...I like to think of the MPC3000 as the piano of violin of our time and you as the MPC3000ist" (Caswell, 2017). Then he continues by doing a comparison between MPC3000's features and the "features" of "the instruments of the old days". Great drummer of this generation, Karriem Riggins says, "Herbie Hancock and Tony Williams and Miles Davis: He's in the same category to me" about Dilla's playing of his MPC3000 (Riggins, 2013). J Dilla's playing and Linn's remarks makes us question the musicianship factor of these machines. First time in history talent of playing a machine came into the sampling process through MPCs.

Akai MPC carries its importance still to this day. Latest incarnation, Akai MPC Live, is well reviewed machine which contains many production features not different than any modern DAW's but its way of interaction with the sampled material stays the same and still create puts it self-front in production in the hands of producers like Kanye West. Therefore, we should investigate MPC's workflow better to understand the process of sampling.



**Figure 3.6 :** Technics 1210 turntable

First you turn on the MPC it is an empty machine. Because of the technological limitation of the time it was impossible to put any preloaded sounds into the machine. Even putting the operating system was hard. That's why for booting up a MPC2000 first you should insert a floppy drive that has the OS. MPC needs a source to load new sound and for hip-hop producers it has always been vinyl records. MPC's always associates with Technics 1210 turntables (Figure 3.6) because the music makers we

called producers were used to called DJs and they do all had turntables. There were other reasons why they used vinyl records, but we are going to investigate it in further chapters. After turntable is connected to the MPC you sample into it and you can do many things with sampled sound. You can chop the sound and divide it to different pads, you can put an attack and decay envelope, you can filter it and do much more. The producers can shape the sound anyway they want. After the sounds are set, time comes to sequencing the sounds. Quantization features helps the producer to play on the beat and even if they make an error it puts the sound on the right beat. Although this feature works great, it's seen inauthentic in beat maker community because strict quantization can give a robotic feel and take out the human aspect of the beat. J Dilla is famously known for not using quantization while operating this machine.

There are three concepts in MPC: sequence, track and machine. Sequence means the place the sample plays every time the phrase loops around. If you play a kick sound on the first beat, every time the phrase loops around kick plays on the same beat. Track shows different empty slots of sound. Like multi-track recording the producer can play the drum sounds in one track and melodic samples in another and with that it's easier to mix, solo or mute the parts of a song. For example, during the chorus part the producer might want to add some new percussive elements and they can record that percussive element in another channel and can slide it in when the chorus comes in. Our last concept, machine, creates the backbone of the MPC. Machine can be seen as a drum kit. Let's say in one of your drum kits you have a snare, a kick and a hi hat and it and you play a phrase on a loop. Then you go to your second drum kit with different snare that differently tuned, a larger kick and crash instead of a hi-hat. If you play the same phrase at the same speed, it's going to have the same motive, but it'll sound completely different. That's what machine do. It holds different sound through the pads but if you change a machine in a sequence you pre-recorded before it'll play the same thing or with other words it'll press the same buttons at the same time as you, but the sound would be different.

This flow helps the producers to create beats. Flow of this instrument is none the less creative. Like any good design, it's honest and tells you what to do. That's why still today's samplers and DAWs copy the working principle of MPC.

According D'Errico, aura of MPC was a part of shared compositional process by every producer that brings out a universality and effects the authenticity of production.

That's why using this instrument today still give credibility to the producer (D'Errico, 2011).

There are many more samplers came after Akai MPCs like Roland SP-404 and Elektron Octatrack with different workflows. SP-404's flow relies on a technic called resampling which the producer plays the sequence for the wanted sound and records his phrase into another pad and then he adds new sounds. These kinds of workflows have affected the producer's compositional styles and they effected DAWs designs. Now sampling it's easier than ever thanks to DAWs. DAWs like Ableton Live, Logic Pro and Pro Tools editing and creating new songs is a click away and even with apps like GarageBand it's possible to sample and create song from our phones. It is a development that changes the game. Most of their design are copied from these machines especially from MPC. Steve Lacey, the producer for artist such as Kendrick Lamar is famous for producing his music through his phone and a dongle to connect an instrument (or his turntable to sample) to his phone (Pierce, 2017).

Modern samplers' and the sampler VSTs implemented in DAWs' sampling quality increases each year. Fairlight CMI used 8 bit 16 KHz DAC which was real low-quality reproduction of sound. Akai MPC60 was more advance with 12 bit 40 KHz DAC with 13 seconds of sampling time which created interesting sampling problem for producers that I mentioned before. Today in computers we use DACs capable to reproduce sound 24 bit (even some push it to 32 bit) 192 KHz. This much quality overcomes human's ability to differentiate the quality. We have more power than we can sensibly use. Although quality is a factor, I believe the limitations of such machines gives producers a different way to look at the compositional process and the limitation forces them to be more creative and pushes them make choices.

When it comes to sound material both DAWs and samplers comes with sample packs that includes well curated sound files from drum loops to synth voices. Using these samples creates an easy way to create song with already created sound bites but using these sounds creates an ethical problem which we are going to investigate in the following chapters.



## **4. BRIEF HISTORY OF SAMPLING IN HIP-HOP**

### **4.1 Sampling in beginning of hip-hop**

Hip-hop, different than any other genre, has a birthday: August 11, 1973. The story goes as DJ Kool Herc was in a party DJing and he played the drum part or break of the song twice with help of a mixer and two copies of the same record. This manipulation of record wasn't so different than Cage's manipulation of records for his compositions, but it opened a possibility for a new genre to emerge. The idea of making a loop from the break of the beat actually give the idea of sampling to hip-hop. That's why turntablism and DJing sits in the middle of hip-hop production.

Before we talk about samplers as the production machine, or the instrument, we have to acknowledge that before the samplers the turntable was the instrument. First, we should understand the environment the hip-hop emerged. African-American community that hip-hop emerged wasn't wealthy or have the financial possibilities. That's why it was hard to get an instrument and take classes to learn (Schloss, 2014). They did have turntables, reel to reels and after that samplers. In 70's New York turntablism with artist such as DJ Kool Herc, Grandmaster Flash and Grandwizard Theodore, the aesthetics of early hip-hop was born with acts like crossfading, scratching and looping records.

Even though hip-hop's origins lie in 1973, until 1979 we do not see any hip-hop records produced. During 1980's emergence of hip-hop begins in an unstoppable level especially in New York hip-hop scene and its radio channels produced by names like Tony Humphries and Frankie Crocker paves the scene for hip-hop. This movement though radio continued with radio shows like Stretch Armstrong and Bobbito show. They were the ones created a ground for producers to show their new works. That's why they were the first one to include use of samplers in the live studio environment by producers (Garfield, 2015).

Before samplers available, turntablism was the most importing way to produces. Because hip-hop born out of poverty in New York city finding instruments to play and finding musicians that are going to play was a hard thing to do but vinyl records and turntablism gave DJs new way to look at composition. The turntables and mixer were in their hands, so they made them their instrument and it was the instrument of their dreams. Who need a band when you have every sound possible from the best musicians in your fingertips?

They could spend couple of hours in the record shop searching through or “dig” through the piles of cheap records and they can find great drum and instrumental loops played by the best musicians out there with most expensive instruments. James Brown’s orchestra was there whenever they need on their fingertips. That’s why in the beginning of hip-hop we mostly see DJs rather than producers. Rapping over repeated segments of a song and maybe an add of drum machine beats were how hip-hop was made at the first place. Hip-hop groups of the time like Grandmaster Flash and Furious Five creates a great example for this kind of song making. MCs singing on top of grooves Grandmaster flash was making by scratching and going between the break of the records. This kind of production created the backbone of hip-hop and therefore an aesthetic value born for use of turntables and vinyl records even after samplers became more available.

Sampling dawn happens with digital samplers get in the hands of the producers. Most notable instruments are E-mu SP-12 released in 1986 and Akai MPC60 released in 1988. We still see MPC’s effect today with many alterations that we investigated in the chapter before. In hip-hop community samplers were an instrument and also is seen as an upgrade feature to turntables and also samplers were become turntables because hip-hop producers had used them. Samplers gave producers to have more availability as matter of production with the source material because they were sound wise empty machines without any pre-recorded sound inside, turntables give the source material to chop, crop, lift, slow down, speed up, pitch shift, layer and do much more. Maybe they had a kick sound and they were able to change its attack, filter it, tune it or layer it with another kick which was quite hard and time taking to do with turntables.

Samplers had developed overtime drastically. First MPCs were 2 MB of ram that can handle maximum of 20 seconds of mono sound maximum which created a difficulty for producers but like in many genres of music, one thing is remains true: limitation

brings creativity. From MPC60, we have come long ways with his successors MPC3000 to MPC2000, MPC 1000 to MPC Live and new machines like Roland SP-404 and Elektron Octatrack became favourite for with capabilities 90's technology only can dream off. Samplers has advanced but some things did not. Design of MPCs 16 velocity sensitive pads can be seen still in many devices and DAW.



**Figure 4.1 : J Dilla producing in front of his Akai MPC3000**

Toop states that after the end of 80's changed in hip-hop was because of cheap digital samplers that hold few bars worth of loops (Toop, 1992). These instruments built a new genre by their technological capabilities and limitation they gave in the hands of producers.

#### **4.2 Intellectual Property Laws**

Sample-based hip-hop builds around practice of borrowing sounds from other works therefore intellectual property laws comes in place. Like Demers says these laws might affect compositional choices made by producers but also making clear suggestions on these laws and creativity would be “unwise” (Demers, 2006).

The laws built around to protect the creator's rights for the works for certain numbers of years after its creation but approximately laws protect the recording for almost 95 years (28 years after their creation plus 67 years of extension). We can argue that almost every single record released after 1925 is still protected by laws and because first vinyl records come to the market in 50's we can certainly most of them still has protection. That's why licensing plays a big part when it comes to sampling. For fair use of a pre-recorded sound artist should licence the original sound from the owner. Owner is not always the creator or composer but mostly the label that released the record in first place.

The producer left with two choices in hand. First one is to licence the material and the second is to cross the fingers for getting no lawsuits about the sample. Although this is the case and there are many big lawsuits about use of unlicensed samples, the lawsuits are generally not the case for couple of reasons. If a well acclaimed producer that related with a big label is sampling from a well-known record, it is a great chance the sampled record is owned by the same label or licensing fee would not matter because the label and the producer is so big. This is the case for DJ Shadow's first album Entroducing... released by A&M Records which is a sub label of Universal. If the sample record is obscure - most of the producers go that way for digging new sound material that nobody has used - identifying the source or owner of the copyrighted material would be hard therefore a lawsuit most likely wouldn't be opened. Lastly if the producer is not well known and the song do not go mainstream and gain success, probably the owner of the sampled sound probably will not notice or open a lawsuit and even then, the artist can come to an agreement for licensing the song.

Another practice comes in place when it comes the IP laws: manipulate a sample and make it unrecognizable. The producers lift, chop, alter, pitch shift sounds so much that finding the original source material becomes impossible. That's why if we look at the lawsuits, we can see that they are generally for samples directly lifted from the original without or with very less alterations. Licensing the identifiable samples and manipulating the other samples became a common practice among big producers.

Although this is the case for compositional process for most of the producers, some events change how producers' samples. If we look at the big IP law cases we often find after these cases happens producer's choice of sample become more selective for later work. Even though they do not licence and get sued over them some familiarity

can work for the producer that can be seen in 2002 case open against Beastie Boys (Demers, 2006).

Although cases like Beastie Boys made a new challenge for producers because the amount of cases built around 1991 result in an expensive licencing system. That's why IP laws can be frustrating for some producers, but they do not create an obstacle for compositional process generally. Any producers think whether or not they can licence a sound from a record when they dig or when they take a sample. These concerns start to build up after the song or the album is done, and it is many comes to the table when it reaches into label's lawyer. If the producer is new, they probably do not care about licencing and if the producer is big and well known they have to be aware of the laws and licence the sound easily with help of the label. Therefore, when it come to the choice of sample these laws do not affect the producer.

### **4.3 Current trends in hip-hop sampling**

In this chapter we are going to look at three producers works with their sampling styles and their choice of sample. Danny Brown, Earl Sweatshirt and Kanye West are great producers that are seen great for their sampled material.

#### **4.3.1 Danny Brown (Paul White)**

Paul White is a British record producer that is known for a sample-based producer. He is also working with instruments like Akai MPC3000 and Boss SP-303 one of the most used instruments and predecessor of SP-404 with similar workflow. Therefore, his production style is no different than J Dilla and producers as such that used these machines. One of his latest production, highly acclaimed album of Danny Brown, Atrocity Exhibition (that takes its name from Joy Division's sample from their 1980 album Closer), gives us a great example to investigate his sample selection. This album includes other producers like Black Milk, Alchemist, Evian Christ as well but most of the tracks have been produced by Paul White.

The album starts with a track called "Downward Spiral" that built around sample taken from Guru Guru's 1972 work Oxymoron and the whole track built around on manipulation of this sample. This well looped sample gives the album the main feeling and sample's complicated nature provide the best sound for an intro.

Second track called "Tell Me What I Don't Know" starts and once again we are faced with a sample instantly. Sound effect sample taken from Edgar Froese's 1979 track

“A-Dali-Esque Sleep Fuse” gives the track movement from the first second. After that we see a track produced by White two songs later with one of the single of the record “Ain’t It Funny”. This track is completely built around sample taken from Nick Mason’s 1981 track “Wervin’”. In “Golddust” we found two samples, vocal from Joy Division’s track that provides the title and structural sample from band Embryo and their 1970 song “People from Out the Space”.

In the next track called “From the Ground” we are faced with an almost scary sample from 1977’s “Sleeping Earth” by Godley & Creme. When we arrive the tenth track “When It Rain” we once again see two samples. Vocal samples from 1992 song by Cajmere called “Percolator” and structural sample that create the main hook of the track, 1968 work called “Pot Au Feu” by one of the electronic music pioneers, Delia Derbyshire.

These kinds of albums give us a great understanding when it comes to production. Manipulation of the sounds are artforms by themselves and most of the samples can be seen as so obscure that they could easily can be not seen by a regular folk. Capabilities of the samplers that he uses, and his compositional choices shows what a great producer can put on the table.

#### **4.3.2 Earl Sweatshirt**

Although Earl Sweatshirt is a young rapper and producer, he already has become one of the well acclaimed producers of our time and his choice of samples counts second to none by most critics. His latest album “Some Rap Songs” builds around short tracks, shorter than 2 minutes, but they give good examples on how to sample. His working style is more mysterious than others but we know he is more DAW oriented producer with use of MIDI keyboards but there is also proof for his use of Roland SP-404 sampler. My personal use of SP-404 gives me an insight on extensive use of this instrument in the album. Compositional flow that SP-404 brings is so distinct and can be heard through the records. His looping of the samples and their repetition never gets dull and always pushes the music forward. While listening this album we can hear how much a picker he is with sample selection.

The first track “Shattered Dreams” starts with a looped sample taken from The Endeavors’ 1970 track with the same name and lyric sample taken from James Baldwin reading of “The Struggle”. Both of these samples give us the first feeling

what kind of a record it's going to be with words by an African-American author that outcasted from life in his entire time – who lived in Istanbul for almost 10 years – and a soft melodic sample that stays in the background but doesn't get lost in the shadow of the rapping. We see another element like this in the track titles “Ontheway!” featuring Standing on The Corner with structural samples taken from Soul Superiors’ “Trust in Me Baby”.

Although his chosen samples are taken from vinyl records, my favourite sample from this record comes from somewhere really interesting and weird. In following chapters, we are going to investigate hip-hop's favourite medium, vinyl, and producer's choices. This sample somewhat do not obey this phenomenon. Seventh track of the album featuring Navy Blue called “The Mint” builds around structural sample taken from 1986 track “Rococo Rondo” by The Ghostwriters released only on cassette. This is an obscure and a rare record nonetheless with its limited release. It's a record almost impossible to find and even you find it it'll sure be expensive – it's last sold in 2018 for 350\$. Because it is not released on vinyl and because it is so rare it is ethically a perfect sample amongst hip-hop producers and for me it is a great example of what digging can create.

Another favourite of mine is the next track of the album, The Bends. Song title gives lots on use of the sampled material. Sweatshirt samples all the elements from Linda Clifford's 1974 track “After Loving You”. He chops and bends the syllables of Clifford's vocals that vocals almost become percussive. These kind of manipulations shows how capable of producer he is and how a good sample can be turn to a great one.

### **4.3.3 Kanye West**

In today's hip-hop music, Kanye West's productions and choice of samples has seen one of the greatest example by critics and his fans approves his success. He is a producer that aware the sound he needs lays under the needle of the turntable. He is not only a big record digger but a producer that has a keen ear for loops, breaks and interesting sounds.

His productions build around a selection of instruments. His main instrument has been Akai MPC samplers, starting with 2000 and continuing with 2000XL, 4000 and latest one in the series MPC Live. He is also known for using a sampler called Ensoniq EPS

16+ that has piano keys as the interface. Still today, we know he still using this ancient sampler. In Coachella Music Festival held in April 2019, West organized an event called Sunday Service that includes gospel singers and talented instrumentalist to play his songs. He was on the field sitting front of this sampler which played as the soloist of a big orchestra. This has been the case for his MPC2000 as well with his performance at MTV Video Music Awards in 2010. MPC placed on the middle of the stage on a roman column was played by Kanye. Other than the sampler there were only two microphone stands. This imagery shows the building principles of hip-hop and his authenticity in this artform: a guy with a sampler and microphone. This minimalist statement puts the sample in the main ground to hip-hop.

West's discography is so wide and diverse with productions he did for himself and for other artists, that it's impossible to investigate all. Different than other producers we investigated, looking to his interesting samples he used makes much sense rather than investigating one of his albums.

His album "My Beautiful Twisted Dark Fantasy" gives us a great starting point with song called "Power". We are faced with beautifully constructed layers that salutes rock history with lifted (directly taken sample without any manipulation) sampled from King Crimson's 1969 classic "21<sup>st</sup> Century Schizoid Man" we understand the mood of the track instantly and samples connotation gives a rhetorical support for Kanye's lyrics on fame and troubles came with power.

In the song from the same album, "Hell of a Life" once again he gives us the same feeling with the sampled guitar riff from Black Sabbath's 1970 song "Iron Man" and The Mojo Men's 1966 song "She's My Baby". It feels like a cover or a mashup of these two songs and gives the mood of the song perfectly with flowing riffs one after another and breaks almost feels like guitar solos.

West is an artist that connected with his roots. He accepts himself as a gospel artist and he is a fan of gospel music that shaped African-American culture. A great example of this can be seen on track called "Father Stretch My Hands Pt. 1" from album Life of Pablo that samples a song with the same name singed by a preacher caller Pastor T.L. Baret.

From his connection with church comes out in another song named "No Churches in the Wild" featuring Jay-Z. In this provocative track we find three structural samples.

Drums are taken from Spooky Tooth's Sunshine Help Me, and other elements taken from Phil Manzanera's 1978 song "K-Scope" and Orchestra Njervudarov 1979 song "Tristessa". All of the samples that builds the track has artfully connected within each other. One can argue they are made by a group of artists in the same time. This kind of perfect combinations of sounds proves the producer's talent both in choose of samples through digging and their musicianship through samplers.

Last example of West's sampling abilities is from a record that he produced but not perform in. In his 2018 Wyoming album series, rapper Pusha T's Daytona album has been praised as a masterpiece and seen as the rap album of the year by many reviewers. The track called "The Games We Play" completely builds around a sample taken from Booker T. Averheart's 1968 song "Heart 'N Soul". Although in the first listen it's hard to understand this sample comes from this song. Kanye pitch shifts and make other manipulations on the sound. Even though it is almost impossible to prove it I can sense he used an MPC while producing it and he chopped the sample to 12 pad and played them. This chopping and dividing the sound to pads is a technique used widely by MPC users and this technics use can be found here clear as day.

Every single work of Kanye West can be dissected to atomic level. His choice of samples seen as the most methodical out there and his musicianship when it comes to samplers he counts as the best. His choice of sample also shows us lot with his choice of using samples from vinyl records. Therefore, he stays as one of the most authentic producers out there. In the next chapter we are going to investigate this tradition built around medium and we will see why vinyl record still counts as the go to source for sampling in hip-hop.

## **5. SOURCE IS VINYL, VINYL IS THE MEDIUM**

In this chapter we are going to investigate the importance of vinyl records in hip-hop. In hip-hop producers use vinyl records as their favorite medium. There are a couple of reasons for their obsession. In this chapter these issues are investigated under digging, importance of press, interaction with turntables, ethics, label and nostalgia.

### **5.1 Digging for samples**

In Schloss' book "Making Beats" in a chapter called "materials and inspiration" this quote shows the importance of medium: "Sampling – the digital recording and manipulation of sound that forms the foundation of hip-hop production – requires sound material. In order to sample, there must be something to sample *from*. For sample-based hip-hop producers the source is usually vinyl records" (Schloss, 2004). We already talked about the importance of medium when it comes to sampling. In his book he continues to explain the importance of which materials should be used and the importance of digging.

Digging is the term used to express acquiring vinyl records for sampling purposes and the term arrives from work of digging through the milk crates which records are usually put in record shops. Milk crates were (and still is) the boxes shops put their low-costing records in, which was the perfect ground for producers to find new, unnoticed and cheap records to sample. Digging also refers to the habit of archiving records by the producers in their home or production space. This term has become synonymous with the ability to find good records to sample and the quantity of records somebody has.

Digging is seen always as an act of getting your hands dirty on the ground searching for records, but today with the age of the internet things have changed. For lots of producers and collectors the biggest records are found on the internet with public sale platforms such as ebay.com. There are some debates whether or not digging is dead because of encyclopaedic sources like Discogs and Popsike which provide all the details for a record and its marketplace value through time. But we shouldn't forget rare records

always stay rare and I don't see much difference in finding a record at a record shop digging or through online digging – the important thing lies in holding the record in your hands.

Digging for vinyl records creates an important method of searching for sound materials because of couple of reasons. One of the reasons lies in the aesthetics. Wangs states the importance of the medium as follows:

I think there's an aura and there's a tradition of it and it's much more exciting to dig through vinyl than it is to flip through CDs... There's an aesthetic of it. You feel like you're doing more work that way... And it has to do with the mystique that vinyl has in our era, it maybe seems kind of outdated and archaic, but classy in some ways... Which is, I think, why people like vinyl better. It just feels purer to them (Wang, 1998).

DJ Spooky explains importance of digging by saying “We live in an era where quotation and sampling operate such a deep level that archaeology of what can be called knowledge floats in a murky realm between the real and unreal” (Schloss, 2004) This quote shows digging importance as a form of archaeological work. You cannot know what's going to come out in those dirty crates. Some can be the things you cannot ever think before. Byron Werner bring this idea further by saying “vinyl anthropology... establishing a database of forgotten music of the past.” This tradition in hip-hop grants rebirth to the old works of art (D'Errico, 2011).

Simon Reynolds suggests a term called “sampladelia” for this kind of music based on sampling practice. According to Demers, “although sampladelia is a broad term for pertaining to a variety of styles, many works of sampladelia reflected a fascination with sound deliberately drawn outside of pop audiences' orbit.” And continues by saying sampladelia artist, by comparison to other genres, do not choose their samples erratically. They choose them to give a meaning and show their knowledge both in obscure and familiar sounds (Demers, 2006). Like Ronson words on being part of the narrative, sampladelia artist dig for new records to find new sound that talks to them and feel they can be a part of the narrative.

That's why digging through vinyl not only means gathering new sounds but lies more in the urge of collecting to show their authenticity through musical knowledge and put them self in middle of a collective narration built around a room filled with records that surrounds them both physically and mentally.

## 5.2 Importance of press

As an avid record collector, through the years I heard one sentence more than everything in record shops about second hand records from the customers generally new to records: “Is this original?” For them original means couple of things. First, because they are new, and they do not know many things about vinyl records they compare them with CD’s and cassettes that known for pirate releases which made them question about their authenticity. Second meaning comes often more: “is it from the same period which record is produced?” Help of Facebook groups and community this expression start to disappear. Instead we start to hear “is it a period pressing?” This way of asking this question can be an isolated situation for Turkey but it shows the importance of pressing of the record. Date of release matters due to technological changes and originality of the master. That’s why record collecting community always tries to occur first press of a record. It’s easy to see this effect on prices of records. If we look at first presses of records came out of Blue Note label that includes such big jazz artist like John Coltrane and Miles Davis, we encounter absurd amount of prices for the first presses because of their rareness and because lots of people are sought after these pressings.

Turkish records make a great case study for period presses. Barış Manço and Kurtalan Ekspres’ 1981 album Sözüme Meclisten Dışarı show us a great example for a phenomenon that includes changes among pressings. 1981 Türküola release contains 13 tracks but 2016 remastered reissue from Spanish Pharaway Records only contains 9 tracks with different track list and 2018 remastered reissue from Turkish Emre Plak contains 9 tracks which some tracks different than Pharaway Records. Also, there are some containing more tracks than first pressings like Erkin Koray 1983 album İlla ki. First press from Emre Plak contains 8 tracks but 2013 reissues from Emre Plak contains 12 tracks and a latest unofficial release contains 10 tracks with some tracks wasn’t in the original record and some missing. This phenomenon also applicable for CD reissues. If we take the same example of Erkin Koray, 2013 CD release contains 12 tracks with terrible new cover art. Especially for CD versions that been released much later contains bad masters and most of the time different track listing. It is not a case for some mainstream album of the time which had a very big distribution but for rare releases it is generally the case and that what makes countries like Turkey a holy

grail ground for producers searching the first pressing. As an example, we can show J Dilla who sampled Moğollar extensively.

Finding reissues or digital version can be applicable for album or LPs but for another format of vinyl records it's often impossible. 7" records were the source of songs released as singles and mostly they were not included in albums. Erkin Koray's first records *Bir Eylül Akşamı* and *Balla Balla* that released as 7" records gives us the perfect example because they were not included in any of releases after they first release in 1963 and they are been seen the most sought after Turkish records due to their historical value and importance of the sound. *Bir Eylül Akşamı* is known as the sample material (not digital sampling but as the source of the cover) for one of the most famous song of recorded history, Rolling Stones' *Paint It Black*. Sampling this kind of rare song put a great perspective to the new song with its background, rarity and sonically and also gives the producer an authenticity for their digging talents.

One of the reasons of sampling from the first presses lies in to get undisturbed sound of the original record. Like Chang states "The distinction between original and reissue brings to light two apparently paradoxical impulses inherent in sampling practice. In addition to the obscurity of the original record, producers cherish the 'raw' recording quality of the original" (Chang, 2013). Period pressing carries the most original master which means it carries the soul of the song most. This is why still we see mono high-fidelity reissues of old jazz records.

Biggest reason to sample first presses (or period presses) also lies in digging. If a producer samples from a reissue or compilation, it'll look upon as a theft because using a reissue from a compilation means to use somebody else's hard work. The label or producer working for the label putted out the reissue or compilation spent time on the record, remastered it, licensed it and probably find by digging. It can count as using someone else's find or biting (Schloss, 2014). In the last couple of years, we see an emergence of reissues of soundtracks for old B-Movies coming from labels such as *Death Waltz*. These releases collected by the record community but often not sampled. Only valid use of sampling these records lies in impossibility to get to the original source but even that is the case not using these releases is lies in moral. DJ Topspin explains this ethic in this quote from 1999:

If you're spinnin' 'em somewhere, that's cool. You know, you can't have every record. No matter how much searching you do, you can't have every piece of vinyl. So, I appreciate

compilations that have tight songs, to play 'em. But as far as me making a song from it? Nah. 'Cause someone else did the footwork to get it in your possession. And that's half the fun: coming out with something you either made or found or manipulated yourself (Schloss, 2014).

### **5.3 Interaction with turntables**

DJ Kool Akiem says, "It's not about playing music; it's about playing records... To me, sampling is playing records more precisely" (Schloss, 2014). According to Toop, the main aesthetic values of hip-hop built around ability to manipulate and mix the records and it is what musicianship of hip-hop comes from (Toop, 1992). Vinyl record carries another way of interacting other mediums cannot provide which is method of playing it. Putting the needle on a groove and getting an instant feedback can't be found in any other medium. In cassettes you have to forward the tape which takes time and for CDs most efficient way to do it is going through the record by DJ type CD players like Pioneer CDJ's but it also does not give the same fast feedback because you have to scroll through the digital waveform and same is applicable for digital files and getting the sample from files through a DAW.

Sampling vinyl records also give a visual feedback no other medium can provide. In digital domain you have to remember which minute it is in the song you want to sample but for vinyl producer's visual memory is enough to get the necessary break when it needed. This method of working creates a flow when it comes to producing cannot be reproduced in any other medium. Like the Angel says:

The reason why people sample is because you get an instant vibe, and an instant sound, from that original recording that you can't get by recording somebody playing a horn. It's just not the same. I can't describe to you what that is, but part of it's the ambience, part of it's the atmosphere. Part of it's all the things that are in that sample, that you wanna EQ out, that still give it flavor. That's why I go through the painstaking, very long-winded process of creating samples for myself. Because just recording it down straight, it'll just sound too placid; it won't have any vibe. So, there's a real value to it (Schloss, 2014).

Schloss states that hip-hop producers have many choices available to produce with devices like synths and CDs, and they often have the possibility to record live instrumentation but mainly they do not choose that road (Schloss, 2014). They choose vinyl record instead and having the record that producer have dug and listened many times on hand in the workplace creates a great convenience when it time to work. Getting the needed sample easily creates such workflow that only can be provided with vinyl. In Pusha T's interview with Boiler Room he says 6,000 records has been listened

through his album production and those records were present during production and getting needed records and sampling it instantly add value to the workflow and makes the sample reachable. In a documentary, Frank Nitt talks about J Dilla's sampling process and how much having the records laying around is needed:

He had a little duster. He used to dust his albums and his machines and all his work. When he had a record playing, he played the records front and back, both sides, while he cleans. And somehow, I don't know how he did it, he remembered where the parts are he wanted to use and when it's the time to work he just go back to that part and phew [makes a putting the needle gesture] he take this break and takes this from here and turns the other side 'I'll take that too'. You know what I'm saying, his work the way how he did it. I don't know how he did it, I don't know how he remembered everything he remembered (Fuse, 2013).

Another aspect of using vinyl records lies in producer's way of experiencing the song that they sampled. Walter Benjamin's article "Work of Art" mentions the vinyl records effect on aura of the sound. A failure (dust in the record, a scratch or a bump) in vinyl give a certain aura to the listener and that makes vinyl record unique in matter of reproduction because the vinyl record becomes only reproduced medium of an art form that doesn't lose its aura. These aesthetic choices affect the aura or the authenticity of a hip-hop beat like Dr. Dre's use of sampled vinyl crackling in "Let Me Ride" (Demers, 2006).

If the sampled album is digital, it's everybody's record but if it's from the producer's collection it's the producer's record. Kids See Ghost album produced by Kanye West gives us the perfect example with the third track called 4<sup>th</sup> Dimension. Song starts with a sample from Louis Prima's 1936 track What Will Santa Claus Say (When He Finds Everybody Swingin'). Around 18. Second record stutters. That's how Kanye heard the record in first place because the record had a nick or a scratch or a dirt in it. It is his experience and with this sample we also able to experience his experience. This reminds me my experience with my old CD player. In the road for school and there was a bump in the road. I listened the same Bon Jovi CD and at the exact time every single day that bump caused the CD skip at the same time. For me the skip was a part of the song. Even this day if I listen the same song is doesn't feel correct to me. I miss expect the skip. But we shouldn't forget for CD's it is a failure rather than physical error. This narration of experience can only be produced authentically through vinyl. Chang describes this phenomenon as follows:

The scratched compact disc, of course, simply fails to function. In this comparative framework, the record is as closely tied to a historical moment as a musical object can be in the age of sound recording (Chang, 2013).

This close relationship of the medium with history gives authenticity to sample and shows the relationship between the producer and the copy of the record he owns. In 1998 interview, Jake One captures this phoneme from another perspective by saying: “It just doesn’t sound authentic... There’s something about the way the old records sound when they’re put together right. You can’t really recapture ’em when you play live” (Schloss, 2014). This saying gives another reason why sampling from vinyl is authentic. It is mostly irreproducible and getting this sound from vinyl through a turntable gives the authentic sound to the producer.

#### **5.4 Ethics**

In previous chapters we talked about the sample packs that are been found in new samplers or DAWs. Using these samples creates an ethical dilemma. This dilemma also correlates with using reissues and compilations as the source file because it contradicts with digging. This quote from Steinski’s interview from Schloss’ book says it all: “A lot of people only sample from vinyl, as a matter of principle. A lot of people won’t sample from a compilation, because they feel like the work has already been done, you should be digging for your own records, and things like that” (Schloss, 2014).

Choosing what to sample is an ethical thing. Some producers obey this purist way to looking at thing and some don’t but like Schloss says, “For those who hold this philosophy, then, the ethics serve to define the boundaries of originality” (Schloss, 2014).

This originality serves the authenticity of the sample taken. That’s why producers obey certain unwritten rules when they sample: they don’t take the same sample somebody else sampled recently (no biting), they don’t sample from other hip-hop records, they won’t sample from reissues or compilations (like we mentioned before), they won’t sample if they cannot respect the previous artist and put something new to the existing work, they won’t sample a record same record twice and they use vinyl records as the legitimate source to take samples (Schloss, 2014).

Although the ethical aspect of vinyl act as an unwritten rule for sample-based hip-hop producers these ethical rules serve as aesthetic choices. Even though sampling from vinyl gives the production process an ease, at the end product the medium of sample came is mostly impossible to distinguish. Therefore, these ethical rules exist more on an aesthetic level and aesthetic gives the authenticity to their works and makes their work sonically authentic. These ethical rules make hip-hop unique as a genre because not in any other genre authenticity builds around how a sound is created through used material of sound. These rules built around sampling from vinyl records with rules like no reissues or compilations. You cannot talk about reissue of a song released on digital medium.

Some of these rules are not obeyed to the bone. We can see some examples of sampling of early works of hip-hop. This counts valid because of their use of the sound and its importance in hip-hop history that makes these samples authentic. Also, producers' samples songs other producers' samples. Although it is not biting if the sample is used in a completely new way. If it sounds the same, it is biting but manipulation of the sound can bring out something original.

### **5.5 Importance of label**

Another aspect of vinyl lies in getting knows the music. Process of digging not only affects how producer sample but it gives them an education and understanding of the music through time. Samson S. summarize this educative process by saying sampling good beats is about education and learning process provided with digging and producer learns new records they didn't heard at home growing up (Schloss, 2014). Record labels carries a big part of this education process because of the certain sound comes from the specific labels from the era helps to shape the hip-hop's aesthetics. Jack One explains importance of label like Impulse, Blue Note and Motown and certain producers like James Brown and Bob James:

There's certain artists that have a certain sound, so, I mean, you'll know, 'Oh, that's a Bob James-produced record,' or something like that. You can just tell, even without knowing the actual song. You can tell if it's from a certain production company or whatever from the seventies. CTI, or a Blue Note record, or whatever, you know? As far as records, once you get to a certain point where you know a lot of labels, and you can look at a certain record and say, 'Well, this is gonna have this kind of sound on it.' You know your producers, your instruments, you know your musicians. You become really educated just by default... Mr. Supreme will tell you record listings... There was a record I pulled at his house and he knew, like, the catalog

listing and everything. I don't know if he was joking around, but he knew it, and I was just kinda staring at him (Schloss, 2014).

Understanding of the relationship between the sound and the label gives the producer a crucial advantage when they dig and get certain record and other way around gives them an upper hand on what to search for. This education is easier with vinyl records due to digging and searching with help of inserts were often placed into the record sleeve to promote new records of the time and because of the versatile construction of a vinyl record sleeve (or center sticker of the record) that often shows all the data the producer needs in the hand.

After certain amount of time producers starts to learn names. A good example of this lies in Blue Note records. Most of the record from the period has the same phrase on the back cover: "Recording by Rudy Van Gelder." Van Gelder was the most important sound engineer of the time with a production style that admired by everybody. It is a fact that Rudy Van Gelder's productions what made Blue Note as the label of jazz. These kind of names starts to build up in producers mind and when these names comes in front of them through digging they know they found a gem and if the record is from some other label, that's pushes the producer to do research and opens their eyes for the next time they bump into a record from that label.

## **5.6 Nostalgia**

Schloss says, "The song constructed from samples is not a pastiche of empty histories, as sample-based music asserts its own continuity" (Schloss, 2014). Sample used in a song carries the history of the record and the recording aesthetics of the time. Nostalgia plays a big factor when producers sample especially when it comes to 1970's because that era corresponds to the childhood of the most mainstream hip-hop producers. (Schloss, 2014). Pusha T states Kanye West's contribution to his music is the nostalgic soul samples which help to recreate the feeling of the era, but I don't believe that is the only case that pushes this period. (Pusha T, 2018) I don't agree with its relationship with the childhood of the producer as we talked about the sample record not needs to be played at home while growing up and all the eras through history carries the nostalgia factor. Mark Ronson says:

Elsewhere in the pop and rap world, we're going a little bit sample-crazy. We're getting away from the obscure samples that we were doing, and all of a sudden everyone's taking these massive 80's tunes like Bowie, "Let's Dance," and all these disco records, and just rapping on

them. These records don't really age that well. You don't hear them now, because they borrowed from an era that was too steeped in its own connotation. You can't just hijack nostalgia wholesale. It leaves the listener feeling sickly (Ronson, 2014).

This statement shows us nostalgia plays a big part in sample aesthetics of hip-hop and samples from unoriginal records do not make overtime. Nostalgia works hand in hand with history of the record and if the record's historical connotation is peeled of the nostalgia cannot be contained. That's why vinyl record carries its importance in sampling because CD or digital content belongs to 'homogeneous and empty time' which cannot be associated to a historical background therefore becomes empty nostalgically.

Ronson saying that especially 80's tunes do not age well which creates an interesting argument for their production style due to emergence of samplers. Non hip-hop songs made with samplers during the era isolate themselves from originality due to their uses and therefore they become unauthentic samples for their use in new songs.

Tricia Rose says, "it affirms black musical history and locates these 'past' sounds in the 'present'... these soul artists have been placed in the foreground of black collective memory" (Rose, 1994). These kind of works carry big values when it comes to nostalgia and it is possible to find examples of this in every culture. If we look at Turkish hip-hop artists and bands, we can find samples from Turkish identity easily that gives familiarity to the listener like soul artists give familiarity to black collective memory. These memories make a group of people a part of the narrative process and later these processes make create a community and a culture.



## **6. DOES TECHNOLOGY CHANGE WHAT WE SAMPLE?**

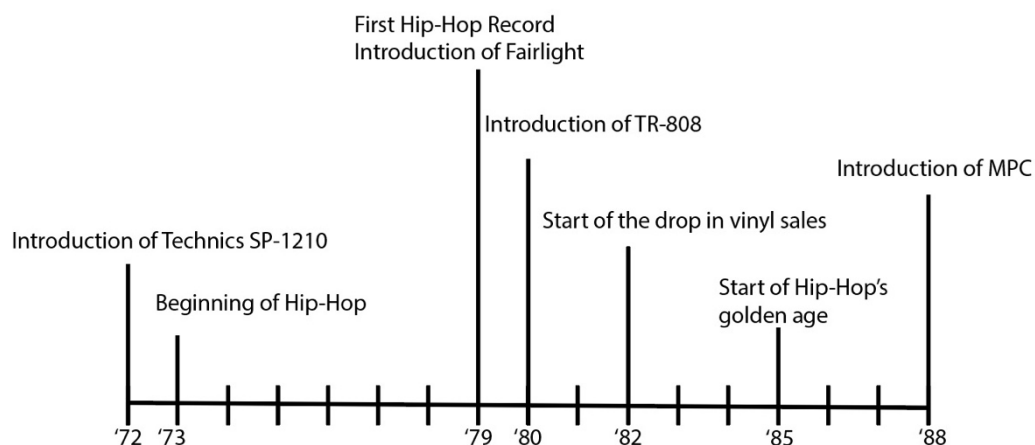
We investigated development of samplers used in sample-based hip-hop. We see an amazing improvement in technology of processing sound with the help of DACs more sophisticated than ever but when we look at the source material it looks like a specific era comes forward. In this chapter, we are going to investigate the behavior of producer in sample selection and their obsession for era before 1982/1983.

Even though we have new sampling and reproduction technologies and loop packages came with the devices, producers are always search for something new. They continue digging in the age of internet. Sometimes their habitat changes and they get help from the new technological developments. If we look at the sounds that producers use, we start to see a correlation and they always get back to sounds recorded before 1982/1983 even sometimes they do not realize while they do it.

### **6.1 Investigation of data**

If we look couple of lists the choice producers makes can be seen clearly. For this study three lists that gives a great perspective to their choice: Top 100 most sampled records of all time according to WhoSampled.com, “Kon + Amir Present: The 50 Greatest Hip-Hop Samples of All Time”, and 100 Greatest Hip-Hop Songs of All Time. Technique that separates the used samples according to the year they produced has been implemented. When we look at first samplers and we find out they first came into market in early 80’s. In 80’s we start to see songs from other genres that start to use samples in their music. Therefore, songs are separated according their year of production. If they have been produced after 1982/1983 time period they categorized once again and another couple of questions has been asked: What type of sample has been taken, is there an importance of the song or the artist in matter of hip-hop history, is it a remix or a cover of a song produced before 1982/1983 and most importantly does the sampled song has sample songs in it?

First technique helps to categorize the sampled material and then we categorize them in three typological groups: structural, surface and lyrical samples. According Sewell structural samples are the rhythmical and groove samples of a song (Sewell, 2013). Surface samples are created by small samples like hits, kicks, effects or other such small sounds that been overlaid on top of structural samples. Lyrical samples are the vocal base samples. It constitutes on sampling vocal parts of another song or sampling a line from a film or TV Show. In compositional perspective lyrical samples carries more pop culture aspect and reproducible. Sampling from a film gives a reference to the listener and some references do not age well. That’s why their “freshness” carries an importance. Other lyrical samples like sampling an acapella part a repetitive saying are used because of the feeling and beauty of a voice. It is a type of sampling disconnected from its historical connotation. Also, because most hip-hop tracks build upon rapping over the beat it is sometimes hard to distinguish whether it is a singed part or a sample.



**Table 6.1 : Major developments in hip-hop**

In this analysis, the main focus is on structural samples because they create the backbone or in other words compositional aspect of producing. Main riff, drum samples, bass lines are all part of structural samples that makes up the whole song and their origins carries the weight when we look at sample-based hip-hop.

Second technique was for establishing the creative thinking behind composition. The sampled track sometimes was from another hip-hop record. As we talk before, sampling from another hip-hop record considers as a faux-pas but it is sometimes acceptable act because of historical background of a record. Investigation on whether

or not it's from an important historic record for hip-hop's history if it is from a sample-based hip-hop track has been checked. Also, another aspect comes to mind while implementing this technique: self-sampling. Self-sampling suggests one sampling from themselves own previous work which considers as not a practice of actual sampling.

Third technique was for eliminating wrong categorization of a sampled sound. Covering or remixing is a well implementing practice in funk, soul and blues music which has been one of the main source materials for hip-hop with names like James Brown. Taken a sample from later remix of a song produced before 1982/1983 still counts as sampling from early recording.

The last one carries the main question of this research. Only looking the sampled material is not enough in sample based hip-hop. Through these lists we see most commercially viable records that ever produced, and these records help us to create a criterion for what the producer's samples. Most commercially viable songs also help us to build a common ground because they help to create the aesthetic choices that other producers try to replicate to become authentic. As we seen on history of sampler, we can see in early 1980 first drum machines and samplers become more and more available commercially. After first hip-hop record "Rappers Delight" by The Sugarhill Gang, we start to see more and more use of drum machines and samplers rather than turntables in hip-hop production due to its rise as a recorded form of music rather than a performance art. The period between 80-85 – or more specifically the middle 1982/1983 – gives us the transition period to drum machines and samplers in almost in any genre. So, question emerges: if a song samples a track produced after 1982/1983, does the sample also uses samples from another record? Interestingly data almost always shows the answer is yes. We are going to investigate every data pool and going to see an interconnected web of sampling I like to call "Russian doll theory" of sampling.

## **6.2 The data**

### **6.2.1 Top 100 most sampled records**

If we look at WhoSampled.com website that gathers most of the sampled records and their origin, we found a list includes 100 most sampled records through time (Appendix A). In this list we see records released between 1962-2011. The majority

of the list includes records produced before 1983 with only 32 of them produced after 1983. Only 4 of these records does not include any sampling in their producing.

“Hot Pants (Bonus Beats)” by Bobby Byrd released in 1987 is the first one on the list. It is a record that has sampled in 623 times and it used mainly for its drums. Interesting part of this record lies in its production because it is produced by James Brown which had been the producer created majority the records hip-hop sampled the most. That’s why it makes sense the hip-hop producers to go back to this record for original James Brown sound generally found in records produced before 1982/1983.

Second record is “Crash Goes Love (Yell Apella)” by Loleatta Holloway. The record that released in 1992 has been sampled 300 times. The record is only constituting on vocal samples with acapella singing which creates a great source material for producers who needs woman back vocals fast and like I explained above lyrical samples (or vocal samples) are an exception for the 1982/1983 rule.

Third one is “Who U Wit?” by Lil Jon and The East Side Boyz that released in 1997. Even though it is a hip-hop track it is not a sample based hip-hop track and if we look at 190 songs that sample this record, we can see sample material once again is vocals. Therefore, it stays as an exception for the 1982/1983 rule.

The last one “I'm Good” by YG. Even though it is released in 2011 and it is the latest entry for the list, this record has been sampled 195 times. Like Lil Wayne song it is a not sample-based hip-hop track and has been a vocal sample source therefore counts as an exception for the 1982/1983 rule.

If we look to other 28 records sampled from most sampled list, we can see the records produced after 83 we can see they do have sampled material in their production therefore sampling them is to sample of a sample. This generally happens because of two things. First, because the producer is not aware of the material is sampled or do not know the original source material, they choose to sample from a record sampled from the original. Second, it can happen because the producer first sampled the record may manipulate the record greatly that the new producer wants to implement his manipulation technique without spending too much time to recreate the same sound. This is where the Russian doll of sampling theory comes in. For example, 76. most sampled track “Pee-Wee's Dance" by Joeski Love produced in 1986 that sampled 193 times carries 5 samples in his production. One of those samples is Pump That Bass by

Original Concept produced in same year, but it is also a record that carries samples in its creation. The main hook (the riff) of the song is based on “Dance to the Drummer's Beat by Herman Kelly & Life that produced in 1978 but also it has 2 other samples that used as vocal samples. Vocal samples are the exceptions for the 1982/1983 rule but even if we look to their origins, “Close (To the Edit)” by Art of Noise produced in 1984 carries samples in its production and the synth sounds of the song is built around samples taken in 1980.

The production year of a record puts out these connections more and more due to time passed after the first sampled record and it is hard to argue when we check the list this Russian doll effect includes all the records produced after 1982/1983.

### **6.2.2 Top 50 greatest hip-hop samples of all time**

The second list that we are going to investigate is a selection of samples curated by Amir Abdullah and Christian Taylor or the group known as Kon and Amir. The New York based duo is known for their digging and the list they put out a list of records in 2010 for Complex magazine. This list gets in more to the subjective side of production. Rather than look up the numbers we have a curation on the quality of used samples with examples given for they use in new record productions. The records in the list are produced between the years 1967-1979. I find the year 1979 odd in this list because in 1979 first hip-hop album is released and Fairlight CMI sampler first came out.

Kon and Amir takes the theory one step further with ending their subjective selection with the same date first commercial samplers came out to market. It's almost like saying there is nothing new worthy to sample after invention of sampling.

Another important thing that catches the eye is the amount of records by or produced by James Brown on the list. Almost fifth of the list is James Brown made which is a huge amount of record in a list with only 50 records.

### **6.2.3 100 greatest hip-hop songs of all time**

We looked at used sample part of the theory but when it comes to the listener part of things investigating the source material does not mean anything. We need to look at the produced sample-based hip-hop tracks to see whether or not the sampling parameters still holds. Looking a list like this looks subjective because everybody's best differs but because 100 most sampled tracks of all-time list is curated by Rolling

Stone magazine and includes collaborations with experts and artist in hip-hop including Beastie Boys founder Mike D and Def Jam Records founder and owner Rick Rubin and total of 33 artists. We can say this list gives us the most objective results. The list curated in 2017 includes tracks from 1979 to 2011. In the list for the records produced after 1982/1983 only six of them are not sample-based hip-hop tracks which counts as out of context because we are investigating sampled-based songs but even this number shows how much hip-hop's roots that connected to sampling.

From the list only seven has not use samples from records produce before 1982/1983 but they do have explanations. "Roxanne's Revenge" by Roxanne Shanté that produced in 1984 samples from 1984 track Roxanne Roxanne by UTFO. If we look at UTFO track, we can see it is a sampled track that samples from 1980 track "The Big Beat" by Billy Squier and one of the all-time favorites for vocal sampling 1982 track "Change the Beat (Female Version)" by Beside. Therefore, we can find a Russian doll inside the samples.

Our second exception comes from 1999 record by Jay-Z featuring UGK, "Big Pimpin'". This record samples multiple elements from "Khusara Khusara" by Hossam Ramzy produced in 1994. Although this might look like a specific example that do not obey the theory it does because "Khusara Khusara" is a cover of 1957 track by the same name by Abdel Halim Hafez and the cover actually from an album that gathers best of his work. Once again, we can find a Russian doll because sampled song is a cover song.

Third is Eminem's "Stan" which produced in 2000, featuring Dido. The record uses Dido's 1999 song "Thank You" in every single element possible but because it is a collaboration between those artists calling it a sample base track might be wrong and because original artist is present in the track as a featuring artist it can be counted as self-sampling.

Fourth one on the list is Missy Elliott with "Get Ur Freak On" produced in 2001. It uses only a vocal sample from one of her early work from 2000 called "Is That Your Chick (The Lost Verses)" by Memphis Bleek feat. Jay-Z, Twista and Missy Elliott. Therefore, the song does the obey the theory because of being a vocal sample and implementing a self-sampling practice and can be counted as non-sample-based track.

Fifth one is once again from a track by Eminem. One of his most notable works from 2002 called “Lose Yourself” officially listed a non-sample-based track therefore can be counted in the before mentioned non-sample based tracks in the list but unofficial sources strictly puts a relationship between this track and Led Zeppelin’s 1975 record “Kashmir” with same repeated pattern and sounds.

Last one from the list is a sample has been mentioned before. 2010 song “B.M.F. (Blowin’ Money Fast)” by “Rick Ross feat. Styles P has only one sample and it is a vocal sample. Interesting part lies in which sample it is: “Who U Wit?” by Lil Jon and The East Side Boyz. As we saw it is an unordinary record that been used extensively in lots of records as a vocal sample. It is the 85. most sampled record ever according to the WhoSampled.com list. Therefore, it obeys the theory and can be counted as non-sample-based track.

In the list only one record has no explanation on what it sampled. Sir Mix-A-Lot’s 1992 classic “Baby Got Back” which also became a huge influence on many hip-hop artist samples from four records. Three of them are vocal samples and even two of those three are samples from records he produced but because we investigate structural and surface samples this part obeys the theory. Multiple elements that creates this songs backbone is from a record produced in 1986 by Channel One called “Technicolor” that do not use any kind of sampling. I count this song an exception, but I still think it can be explained. This track completely built around TR-808 drum machine and it is a house record from Detroit which is part of hip-hop’s history. Sampling this record is almost carries the same values of using a Run DMC record. Although still from this list it is the only one that do not obey the theory.

For the 100 most sampled tracks of all-time list if we count these exceptions and eliminate the non-sample-based records we can say there are 8 non sample-based track (with inclusion of “Get Ur Freak On” and “B.M.F. (Blowin’ Money Fast)”) and from the remaining 92 “Stan” and “Baby Got Back” do not obey the rule. Although “Stan” can also count as a special case because it features the original artist. Therefore only 1% of the records do not obey the 1982/1983 theory but I do not count that track an exception because of the use of electronics that can be reprogrammable in ease.

### 6.3 Analysis of data

This data shows the pattern for the sampled material. The use of structural samples is focused on productions made before 1982/1983 with only couple of exceptions. We also see some patterns in these exceptions. There is a certain trend going on.

Producers obsession with this period also shows the importance of vinyl record when it comes to sampling because the period before 1982/1983 was the period of publishing and sale most for the vinyl records, some were never published as cassettes or digital in some cases. So, sampling from vinyl records was sometimes due to necessities but the main reason lay upon capturing the most original version of the sound. That's not obvious for someone sampled from a song produced after 1982/1983 but it says relevant for the song who sampled from before the period, sometimes this effect shows itself retroactively.

Another case emerges due to samples role as instrumental part of the songs. Hip-hop builds around a sample-based instrumentation and vocals on top of it therefore using vocal samples from any period creates an acceptable use of the sound and same is also acceptable for sound effects. Using a sample of radio changing static sound or sound of thunder will always be same. Both vocals and sound effects are timeless samples when it comes to sampling in hip-hop. But for instrumentation we cannot state the same. Like Wang says, it's difficult to capture the beauty of live instruments when you are looping a sample and therefore hip-hop cannot count authentic if live instrumentation becomes a part of it. (Wang, 1998). Schloss also talks about the importance of using no live instrument by stating the production is a work of digging which means spending time, money and energy to conserve the sampled record and staying pure in making of the song (Schloss, 2014).

Also, an argument of quality of the records produced in 1970's emerges because of timbral qualities of the recording due to analog compression and distortion (Schloss, 2014). Although I don't find this argument true due to sampling technology overtime and our listening habits like we discussed in other chapters.

Even the technology develops and gives producers great sample packs and DACs it cannot give the producer the sound it needs:

When I go to a music store and talk to someone that sells equipment, they'll argue with me. And say, "Man, this is the greatest machine." Of course, they're a salesman. But they'll tell

me, “You can’t beat this machine. It has a hundred snare sounds in it. A hundred kick drums.” Yeah, but they all sound like shit! They all sound electronic! And he’s like, “You rap guys crack me up. You wanna spend all this money and get top-of-the-line equipment and then sample a record. A crunchy, dirty record.” Well, yeah, of course we do, ’cause those are the dope sounds. They don’t really understand that. We do it for a reason, and that’s what makes the records fresh (Mr. Schloss, 2014).

The sound whatever quality the digital conversion might be still creates the main building blocks - or the paint - of the song the producer tries to achieve, and the data shows these samples always takes us to a period before 1982/1983. This case proves itself when we look at the emergence of drum machines starting in early 80’s and trend of using drum samples from records produced before 1982/1983.

This phenomenon and going back to a certain sampled material from an era before 1982/1983 give us a certain aesthetic choice that been made by producers sometime intentional and sometimes not. These aesthetic choices may be part of a certain traditional feelings, ethics and production styles but we shouldn’t forget these aesthetic values changes overtime and we see a trend that goes on since the beginning of hip-hop. I believe this not only says something on production of hip-hop but also it says much more on other genres of music hip-hop takes its roots - or other words samples - from. If producers are not sampling - or sampling less – from records produced after 1982/1983, what does it says about the music made after this time?

## 7. CONCLUSION

Demers says, “Sampling has in fact become the favored means of creating the illusion of authenticity” (Demers, 2006). That’s make hip-hop a genre that creates illusion of authenticity. If we look at why hip-hop uses samples, we see this search for authenticity. This search happens through searching the right sample that can put themselves into its narrative process.

In sample-based hip-hop, producers hold vinyl record as their main medium to sample new sounds. Turntablism background of hip-hop and the digging practice puts the vinyl record on top as the medium to go to. This makes vinyl record the medium that producers had used to put new sounds into their samplers.

Someone can argue in listener's perspective medium which sample comes from do not matter. Chang says, “without the aural equivalent of quotation marks to call attention to a sound's status as sample, listeners who may have never heard the 'original' may not recognize that they are listening to a borrowed sound.” This might be true for the listener but for producer this change everything. For hip-hop producer source of the sample came changes a lot. Ethics of sampling pushes the producer not only sample from vinyl but create the perfect ground to push them to sample from vinyl. Vinyl records’ form helps the producer in sampling process through working principles of turntable.

Ethics of sampling from vinyl records heavily relies on aesthetic choices that producers made through historical development of hip-hop. We should acknowledge that the aesthetic choices push the authenticity factor of the end product. These aesthetic choices may change overtime. A generation that did not grew up with vinyl record may choose different mediums to sample in the future but because of the historical background of hip-hop that are connected to DJ’ing I don’t see the medium will change. Vinyl records sales are bigger than ever and reissues of DJ turntables like

Technics 1210 show the way of interacting that vinyl record and turntable provides will not change.

Samplers technological development of time happens rapidly through time and they become more and more reachable for everyone wants to make music every passing day. Yesterday's expensive and huge machines are now available on your phones for less than a fiver. Although these advancements happen overtime, form factor of these devices often do not change, they just get more sophisticated. The biggest advancement happens in their reproduction technology with more advance DACs that are putted in but even that advancement came to a halt because of our ear's capacity on hearing better quality sound. We also see a choice to sample on lower qualities as an aesthetic choice. Sometimes human ear favors the lower quality sound. Also, the old machines are often used by producers because of their workflow still in today's productions. Kanye West still uses his Ensoniq sampler that stores samples by floppy disk.

These kinds of limitation and use of vinyl as the source creates a dilemma on sound quality. It shows use of vinyl does not mean a thing in matter of quality of sound especially in a setting that uses 16-bit samplers. That's why arguments like warm analogue sound of vinyl record does not held up. Manipulations made and effects put on top of the sample can drop the quality of sample as well. Also, if we look at the listener, we are often faced with a listening practice built around streaming services that often provide low quality recording. That's why quality of sound came out of vinyl records does not held up.

Even though the quality does not matter, the producers still look for first presses but that's often made to eliminate biting and get the undisturbed sound. Reissues can destroy a good mix that is favorable for the producer. Also, in countries like Turkey, releases often hold different recordings of the same track and sometimes they do not have the same songs at all. That's why searching for first presses holds its importance.

Lastly digging through records and searching for rare records never gets old. Finding something new that nobody else sampled still count as one of the most authentic things that a producer can do. Therefore, fetishization of vinyl is not for nothing.

The obsession with sampling records produced before 1982/1983 can be seen through the lists. Top 100 most sampled record shows us sounds that producer seen as the best

and most versatile to sample objectively. Sampling a record that many times and still have an original sound is a hard thing. That's why we should also accept the bendable nature of these songs. When we investigate those samples, we see they are all based on records produced before 1982/1983 and it looks same for Kon and Amir list. Even though Kon and Amir list is a subjective list, it does not give any sampled song produced later than 1982/1983. This shows also subjectively the quality samples are focused on a period before 1982/1983.

In the last list includes top 100 greatest hip-hop track, the choice of the list was made because of number of hip-hop producers that been selected for this list's curation. "Greatest" is a subjective statement but selecting such a list will be always subjective and when we look at other lists, we start to see same track listings. These lists hold both sample-based and non-sample-based hip-hop songs but among sample-based one only of the record do not obey the theory.

When we look at every record sampled in a song, we may see other samples from a period later than 1982/1983. When that is the case, we have to look that samples origins and when we look at it, we find 99% of the time other sampled record from before 1982/1983. Sometimes it needs more digging. Sampled record that has a sample could have another sample inside and it can go back countless of times. That's why we call it "Russian doll theory."

This period also has a value in matter of vinyl records because of the majority of releases. We even start to see major cassette sales starting on 1984. This creates a dilemma of chicken and egg. Does producers focused on vinyl because they like the sound produced before 1982/1983 or they sampled from this time period because it was the period of vinyl records?

This research shows that producers choose the sample from the era before 1982/1983. Most of the time it happens involuntarily. Even though sampling technology changes, sample selection do not but because sampling technology effects all genre the new material to sample carries the old samples. Sampling technology provides a breaking point for producers stop to sample from. This result gives us another research question on reasons of this breaking point. This breaking point can be result of couple of things. Production standards of the era before 1982/1983 holds the key to open the door for this phenomenon and makes me question about the quality drop of work worth

sampling after commercial releases of samplers. Do samplers kill the new sampled material? My answer is no but I suspect it might be injured it and new sampleable material may be getting ready to die.

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## **APPENDICES**

**APPENDIX A:** Top 100 most sampled records of all time

**APPENDIX B:** Records produced after 1982 from the list of “Top 100 most sampled records of all time”

**APPENDIX C:** Sample list of records produced after 1982 from the list of “Top 100 most sampled records of all time”

**APPENDIX D:** The 50 Greatest Hip-Hop Samples of All Time

**APPENDIX E:** 100 Greatest Hip-Hop Songs of All Time

**APPENDIX F:** Sample list of records from the list of “100 Greatest Hip-Hop Songs of All Time”

## APPENDIX A

**Table A.1** : Top 100 most sampled records of all time (WhoSampled.com, 2019)

	Artist-Song	Year	How many times it sampled?
1	The Winstons, "Amen, Brother"	1969	2984
2	Beside, "Change the Beat (Female Version)"	1982	2246
3	Lyn Collins "Think (About It)"	1972	2118
4	James Brown" Funky Drummer"	1970	1477
5	Doug E. Fresh and Slick Rick, "La Di Da Di"	1985	941
6	James Brown, "Funky President (People It's Bad)"	1974	843
7	Public Enemy, "Bring the Noise"	1987	777
8	The Honey Drippers, "Impeach the President"	1973	764
9	Melvin Bliss, "Synthetic Substitution"	1973	762
10	Run-DMC, "Here We Go (Live at the Funhouse)"	1985	741
11	Mountain, "Long Red"	1972	692
12	The Mohawks, "The Champ" The Mohawks	1968	664
13	Bobby Byrd, "Hot Pants (Bonus Beats)"	1987	597
14	Incredible Bongo Band, "Apache"	1973	538

15	ESG, "UFO"	1981	497
16	Funk, Inc., "Kool Is Back" Funk, Inc.	1971	495
17	Skull Snaps, "It's a New Day"	1973	490
18	Sly & the Family Stone, "Sing a Simple Song"	1968	431
19	Bob James, "Take Me to the Mardi Gras"	1975	420
20	The Soul Searchers, "Ashley's Roachclip"	1974	399
21	Afrika Bambaataa and Soulsonic Force, "Planet Rock"	1982	381
22	James Brown, "The Payback"	1973	380
23	James Brown, "Get Up, Get Into It, Get Involved"	1970	367
24	Eric B. & Rakim "I Know You Got Soul"	1987	338
25	Kurtis Blow, "AJ Scratch"	1984	325
26	Big Daddy Kane feat. Biz Markie, "Just Rhymin' With Biz"	1987	324
27	Bob James, "Nautilus"	1974	311
28	Commodores, "The Assembly Line"	1974	308
29	Public Enemy, "Rebel Without a Pause"	1987	307
30	Syl Johnson, "Different Strokes"	1967	306
31	James Brown, "Get Up Offa That Thing"	1976	304
32	Kool & the Gang, "N.T."	1971	304
33	George Clinton, "Atomic Dog"	1982	298

34	Malcolm McLaren, "Buffalo Gals"	1982	298
35	Public Enemy, "Public Enemy No. 1"	1987	298
36	Mantronix, "King of the Beats"	1988	297
37	T La Rock and Jazzy Jay, "It's Yours"	1984	295
38	Zapp, "More Bounce to the Ounce"	1980	293
39	Loleatta Holloway, "Crash Goes Love (Yell Apella)"	1992	286
40	Billy Squier, "The Big Beat"	1980	284
41	Joe Tex, "Papa Was Too"	1966	283
42	The Headhunters feat. Pointer Sisters, "God Make Me Funky"	1975	282
43	Audio Two, "Top Billin'"	1987	278
44	Beastie Boys, "The New Style"	1986	274
45	Mobb Deep, "Shook Ones Part II"	1994	262
46	Grandmaster Flash and The Furious Five feat. Grandmaster Melle Mel and Duke Bootee, "The Message"	1982	258
47	Wu-Tang Clan, "C.R.E.A.M."	1993	252
48	Ohio Players, "Funky Worm"	1972	247
49	Whistle, "(Nothing Serious) Just Buggin'"	1986	236
50	Dexter Wansel, "Theme From the Planets"	1976	236
51	Barry White, "I'm Gonna Love You Just a Little More Baby"	1973	233
52	Lafayette Afro Rock Band, "Hihache"	1973	233

53	Run-DMC, "Peter Piper"	1986	229
54	James Brown, "Say It Loud, I'm Black and I'm Proud"	1968	229
55	Tom Scott and The L.A. Express, "Sneakin' in the Back"	1974	221
56	Funkadelic, "Good Old Music"	1970	219
57	Sugarhill Gang, "Rapper's Delight"	1979	217
58	James Brown, "Give It Up or Turnit a Loose (Remix)"	1986	216
59	James Brown, "Get on the Good Foot"	1972	215
60	First Choice" Let No Man Put Asunder (A Shep Pettibone Mix)"	1983	213
61	The D.O.C., "It's Funky Enough"	1989	212
62	James Brown, "Hot Pants Pt. 1 (She Got to Use What She Got to Get What She Wants)"	1971	212
63	The J.B.'s, "The Grunt"	1970	211
64	Five Stairsteps, "Don't Change Your Love"	1968	211
65	Eric B. & Rakim, "Eric B. Is President"	1987	209
66	N.W.A, "Straight Outta Compton"	1988	209
67	Wilson Pickett, "Get Me Back on Time, Engine #9"	1970	207
68	N.W.A, "Gangsta Gangsta"	1988	203
69	Blowfly, "Sesame Street"	1974	203
70	KRS-One, "Sound of Da Police"	1993	200
71	Kool & the Gang, "Summer Madness"	1974	198

72	Lee Dorsey, "Get Out of My Life, Woman"	1966	198
73	YG, "I'm Good"	2011	194
74	Lou Donaldson, "Ode to Billie Joe"	1967	193
75	The Notorious B.I.G. feat. Total, "Juicy"	1994	193
76	Joeski Love, "Pee-Wee's Dance"	1986	193
77	DJ Trace and Pete Parsons, "1 Sniper"	1999	192
78	James Brown, "Get Up (I Feel Like Being A) Sex Machine"	1970	192
79	Cerrone, "Rocket in the Pocket (Live)"	1978	192
80	Chic, "Good Times"	1979	191
81	Funkadelic, "You'll Like It Too"	1981	190
82	James Brown, "Make It Funky"	1971	188
83	DJ Grand Wizard Theodore and The Fantastic Five, "Fantastic Freaks at the Dixie"	1983	188
84	Juice, "Catch a Groove"	1976	187
85	Lil Jon and The East Side Boyz, "Who U Wit?"	1997	185
86	Led Zeppelin, "When the Levee Breaks"	1971	184
87	Brass Construction, "Movin'"	1975	181
88	Eric B. & Rakim, "Microphone Fiend"	1988	181
89	Parliament, "Flash Light"	1977	180
90	John Barry and Monty Norman, "James Bond Theme"	1962	180

91	MC Shan, "The Bridge"	1986	176
92	Kurtis Blow, "Christmas Rappin'"	1979	175
93	Loleatta Holloway, "Love Sensation"	1980	172
94	Funkadelic, "(Not Just) Knee Deep"	1979	170
95	Detroit Emeralds, "You're Getting a Little Too Smart"	1973	170
96	Run-DMC, "Sucker M.C.'s (Krush Groove 1)"	1983	169
97	Let a Man Be a Man" Dyke & the Blazers, "Let a Woman Be a Woman"	1969	169
98	Rob Base & DJ E-Z Rock, "It Takes Two"	1988	169
99	The Brothers Johnson, "Ain't We Funkin' Now"	1978	161
100	Herman Kelly & Life, "Dance to the Drummer's Beat"	1978	161

## APPENDIX B

**Table B.1** : Number of samples according to time period of the records produced after 1982 from 100 most sampled records list

Song-Artist	Year	How many sample it contains?	Number of sample produced before 82'	Number of sample produced after 82'
Afrika Bambaataa and Soulsonic Force, "Planet Rock"	1982	5 samples	5	0
George Clinton, "Atomic Dog"	1982	-	0	0
Malcolm McLaren, "Buffalo Gals"	1982	2 samples	2	0
Grandmaster Flash and The Furious Five feat. Grandmaster Melle Mel and Duke Bootee, "The Message"	1982	1 sample	1	0
First Choice" Let No Man Put Asunder (A Shep Pettibone Mix)"	1983	Remix of 1977 original	1	0
DJ Grand Wizard Theodore and The Fantastic Five, "Fantastic Freaks at the Dixie"	1983	1 sample	1	0
Run-DMC, "Sucker M.C.'s (Krush Groove 1)"	1983	-	0	0
Kurtis Blow, "AJ Scratch"	1984	7 samples	7	0
T La Rock and Jazzy Jay, "It's Yours"	1984	4 samples	3	1

Doug E. Fresh and Slick Rick, "La Di Da Di"	1985	2 samples	2	0
Run-DMC, "Here We Go (Live at the Funhouse)"	1985	4 samples	2	2
Beastie Boys, "The New Style"	1986	5 samples	2	3
Whistle, "(Nothing Serious) Just Buggin'"	1986	8 samples	5	3
Run-DMC, "Peter Piper"	1986	6 samples	6	0
James Brown, "Give It Up or Turnit a Loose (Remix)"	1986	Original 1969	1	0
Joeski Love, Pee-Wee's Dance"	1986	3 samples	2	1
MC Shan, "The Bridge"	1986	2 samples	2	0
Public Enemy, "Bring the Noise"	1987	9 samples	7	2
Bobby Byrd, "Hot Pants (Bonus Beats)"	1987	Remix of 1972 original	1	0
Eric B. & Rakim "I Know You Got Soul"	1987	3 samples	3	0
Big Daddy Kane feat. Biz Markie, "Just Rhymin' With Biz"	1987	3 samples	1	2
Rebel Without a Pause - Public Enemy	1987	7 samples	5	2
Public Enemy, "Rebel Without a Pause"	1987	3 samples	2	1

Audio Two, "Top Billin"	1987	2 samples	1	1
Eric B. & Rakim, "Eric B. Is President"	1987	1 sample	0	1
Mantronix, "King of the Beats"	1988	11 samples	9	2
N.W.A, "Straight Outta Compton"	1988	7 samples	6	1
N.W.A, "Gangsta Gangsta"	1988	16 samples	8	8
Eric B. & Rakim, "Microphone Fiend"	1988	3 samples	3	0
Rob Base & DJ E-Z Rock, "It Takes Two"	1988	2 samples	2	0
The D.O.C., "It's Funky Enough"	1989	8 samples	7	1
Loleatta Holloway, "Crash Goes Love (Yell Apella)"	1992	-	0	0
Wu-Tang Clan, "C.R.E.A.M."	1993	2 samples	1	1
KRS-One, "Sound of Da Police"	1993	3 samples	2	1
Mobb Deep, "Shook Ones Part II"	1994	4 samples	3	1
The Notorious B.I.G. feat. Total, "Juicy"	1994	2 samples	0	2
Lil Jon and The East Side Boyz, "Who U Wit?"	1997	-	0	0

DJ Trace and Pete Parsons, 1 Sniper"	1999	2 samples	0	2
YG, "I'm Good"	2011	-	0	0

## APPENDIX C

Sample list of records produced after 1982 from the list of “Top 100 most sampled records of all time”

Every single line represents a sample. Under some samples you might see other samples divided by a tab. These samples Show the “Russian Doll” effect of sampling. Some times this effect can be seen couple of times for different samples.

- Afrika Bambaataa and Soulsonic Force, “Planet Rock” (1982)
  - Trans-Europe Express by Kraftwerk (1977)
  - The Mexican by Babe Ruth (1972),
  - Numbers by Kraftwerk (1981)
  - ORCH5 by David Vorhaus (1982)
  - Super Sperm by Captain Sky (1978)
  
- Malcolm McLaren, “Buffalo Gals” (1982)
  - Carson Robison And His Old Timers by Buffalo Boy Go 'Round the Outside (1941)
  - Zulu's on a Time Bomb by Malcolm McLaren (1982)
  
- Grandmaster Flash and The Furious Five feat. Grandmaster Melle Mel and Duke Bootee, “The Message” (1982)
  - Superappin' by Grandmaster Flash and The Furious Five (1979)
  
- First Choice” Let No Man Put Asunder (A Shep Pettibone Mix)” (1983)
  - Let No Man Put Asunder by First Choice (1977)
  - Info: It is a remix of a song
  
- DJ Grand Wizard Theodore and The Fantastic Five, “Fantastic Freaks at the Dixie”
  - Down by Law by Fab 5 Freddy (1983)
  
- Run-DMC, “Sucker M.C.'s (Krush Groove 1)” (1983)
  - Info: This song does not includes any samples but it is produced in 1983.
  
- Kurtis Blow, “AJ Scratch” (1984)
  - The Breaks by Kurtis Blow (1980)
  - Kool Is Back by Funk, Inc. (1971)
  - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
  - I Can't Stop by John Davis and the Monster Orchestra (1976),
  - Take Me to the Mardi Gras by Bob James (1975)
  - And You Know That by TJ Swann (1979)
  - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
  
- T La Rock and Jazzy Jay, “It's Yours” (1984)
  - I Like Funky Music by Uncle Louie (1979)
  - Daisy Lady by 7th Wonder (1979)
  - The Wildstyle by Time Zone (1983)

- Good Times by Chic (1979)
- Dirty Talk (European Connection) by Klein & M.B.O. (1982)
- Feel Me by Blancmange (1982)
- I Believe in Music by The Kay-Gees (1976)
- Doug E. Fresh and Slick Rick, "La Di Da Di" (1985)
  - Sukiyaki by A Taste of Honey (1980)
  - The Magic Mirror from Snow White and the Seven Dwarfs (1937)
- Run-DMC, "Here We Go (Live at the Funhouse)" (1985)
  - The Big Beat by Billy Squier (1980)
  - Hollis Crew (Krush Groove 2) by Run-DMC (1983)
  - AJ Scratch by Kurtis Blow (1984)
    - The Breaks by Kurtis Blow (1980)
    - Kool Is Back by Funk, Inc. (1971)
    - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
    - I Can't Stop by John Davis and the Monster Orchestra (1976),
    - Take Me to the Mardi Gras by Bob James (1975)
    - And You Know That by TJ Swann (1979)
    - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
  - Hand, Hand, Fingers, Thumb by Al Perkins (1969)
- Run-DMC, "Peter Piper" (1986)
  - Take Me to the Mardi Gras by Bob James (1975)
  - I Can't Stop by John Davis and the Monster Orchestra (1976)
  - Weebles Wobble by Hasbro (1971)
  - Peter Piper by Traditional Folk (1813)
  - Silly Rabbit, Trix Are for Kids by The Trix Rabbit and The Trix Kids (1954)
  - Little Bo Peep by Traditional Folk (1805)
- Beastie Boys, "The New Style" (1986)
  - Drop the Bomb by Trouble Funk (1982)
  - Peter Piper by Run-DMC (1986)
    - Take Me to the Mardi Gras by Bob James (1975)
    - I Can't Stop by John Davis and the Monster Orchestra (1976)
    - Weebles Wobble by Hasbro (1971)
    - Peter Piper by Traditional Folk (1813)
    - Silly Rabbit, Trix Are for Kids by The Trix Rabbit and The Trix Kids (1954)
    - Little Bo Peep by Traditional Folk (1805)
  - Kool Is Back by Funk, Inc. (1971)
  - Two, Three, Break by The B-Boys (1983)
    - Bustin' Loose by Chuck Brown and The Soul Searchers (1978)
    - The Assembly Line by Commodores (1974)
    - Catch a Groove by Juice (1976)
    - Rocket in the Pocket (Live) by Cerrone (1978)
    - Pump Me Up by Trouble Funk (1982)
    - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
    - I Can't Stop by John Davis and the Monster Orchestra (1976)
    - The Big Beat by Billy Squier (1980)

- Flick of the Switch by AC/DC (1983)
- Whistle, "(Nothing Serious) Just Buggin'" (1986)
  - In the Hall of the Mountain King by Edvard Grieg (1876)
  - Celebrate the Good Things by Pleasure (1978)
  - The Bugger Groove by The Buggers (1984)
    - There Is a Sixth Dimension from The Twilight Zone (1959)
    - Trailer from Tarzan the Ape Man (1932)
  - Beats and Rhymes by UTFO (1984)
  - Five O'Clock Whistle by Glenn Miller feat. Marion Hutton (1940)
  - Green Acres by Vic Mizzy, Eddie Albert and Eva Gabor (1965)
  - Bonus (A Side) by Hashim (1983)
  - Change the Beat (Female Version) by Beside (1982)

Info: Beats and Rhymes and Bonus (A Side) does not includes any samples but it is an important hip-hop song in hip-hop history and because it is produced in 1984 it is negligible.
- James Brown, "Give It Up or Turnit a Loose (Remix)" (1986)
  - Give It Up or Turnit a Loose by James Brown (1969)

Info: This song is a remix of 1969 original
- Joeski Love, "Pee-Wee's Dance" (1986)
  - Tequila by The Champs (1958)
  - Pump That Bass by Original Concept (1986)
    - Close (To the Edit) by Art of Noise (1984)
      - Leave It by Yes (1983)
      - Owner of a Lonely Heart by Yes (1983)
    - Beer Barrel Polka (Roll Out the Barrel) by The Andrews Sisters (1939)
    - ARR1 by Fairlight CMI (1980)
  - Dance to the Drummer's Beat by Herman Kelly & Life (1978)
  - (Nothing Serious) Just Buggin' by Whistle (1986)
    - In the Hall of the Mountain King by Edvard Grieg (1876)
    - Celebrate the Good Things by Pleasure (1978)
    - The Bugger Groove by The Buggers (1984)
      - There Is a Sixth Dimension from The Twilight Zone (1959)
        - Trailer from Tarzan the Ape Man (1932)
    - Beats and Rhymes by UTFO (1984)
    - Five O'Clock Whistle by Glenn Miller feat. Marion Hutton (1940)
    - Green Acres by Vic Mizzy, Eddie Albert and Eva Gabor (1965)
    - Bonus (A Side) by Hashim (1983)
    - Change the Beat (Female Version) by Beside (1982)
  - Synthetic Substitution by Melvin Bliss (1973)
- MC Shan, "The Bridge" (1986)
  - Impeach the President by The Honey Drippers (1973)

- Scratchin' by The Magic Disco Machine (1975)
- Public Enemy, "Bring the Noise" (1987)
  - It's My Thing by Marva Whitney (1969)
  - Fire & Fury Grass Roots Speech by Malcolm X (1965)
  - Funky Drummer by James Brown (1970)
  - Get Off Your Ass and Jam by Funkadelic (1975)
  - Get Up, Get Into It, Get Involved by James Brown (1970)
  - Fantastic Freaks at the Dixie by DJ Grand Wizard Theodore and The Fantastic Five (1983)
    - Down by Law by Fab 5 Freddy (1982)
  - I Don't Know What This World Is Coming To by The Soul Children feat. Jesse Jackson (1972)
  - Give It Up or Turnit a Loose (Remix) by James Brown (1986)
    - Give It Up or Turnit a Loose by James Brown (1969)
  - The Assembly Line by Commodores (1974)
- Bobby Byrd, "Hot Pants (Bonus Beats)" (1987)
  - I'm Coming, I'm Coming, I'm Coming by Bobby Byrd (1972)
  - Info: It is the remix of 1972 original
- Eric B. & Rakim "I Know You Got Soul" (1987)
  - I Know You Got Soul by Bobby Byrd (1971)
  - You'll Like It Too by Funkadelic (1981)
  - Different Strokes by Syl Johnson (1967)
- Big Daddy Kane feat. Biz Markie, "Just Rhymin' With Biz" (1987)
  - Supercalifragilisticexpialidocious by Julie Andrews and Dick Van Dyke (1964)
  - Somethin' Funky by Big Daddy Kane (1987)
    - The Payback by James Brown (1973)
    - Funky Drummer by James Brown (1970)
    - Synthetic Substitution by Melvin Bliss (1973)
    - Funky President (People It's Bad) by James Brown (1974)
    - Do the Funky Penguin by Rufus Thomas (1971)
  - Hollis Crew (Krush Groove 2) by Run-DMC (1983)
    - Sucker M.C.'s (Krush Groove 1) by Run-DMC (1983)
  - Info: Krush Groove 1 is an important non-sampled hip-hop track in hip-hop history
- Public Enemy, "Rebel Without a Pause" (1987)
  - The Grunt by The J.B.'s (1970)
  - Funky Drummer by James Brown (1970)
  - I Don't Know What This World Is Coming To by The Soul Children feat. Jesse Jackson (1972)
  - Rock 'N Roll Dude by Chubb Rock (1987)
    - When Boys Talk by Indeeep (1983)
    - The Record Keeps Spinning by Indeeep (1984)
  - Get Up Offa That Thing by James Brown (1976)
  - Pee-Wee's Dance by Joeski Love (1986)

- Tequila by The Champs (1958)
- Pump That Bass by Original Concept (1986)
  - Close (To the Edit) by Art of Noise (1984)
    - Leave It by Yes (1983)
    - Owner of a Lonely Heart by Yes (1983)
    - Beer Barrel Polka (Roll Out the Barrel) by The Andrews Sisters (1939)
    - ARR1 by Fairlight CMI (1980)
    - Dance to the Drummer's Beat by Herman Kelly & Life (1978)
  - (Nothing Serious) Just Buggin' by Whistle (1986)
  - In the Hall of the Mountain King by Edvard Grieg (1876)
    - Celebrate the Good Things by Pleasure (1978)
    - The Bugger Groove by The Buggers (1984)
      - There Is a Sixth Dimension from The Twilight Zone (1959)
        - Trailer from Tarzan the Ape Man (1932)
        - Beats and Rhymes by UTFO (1984)
        - Five O'Clock Whistle by Glenn Miller feat. Marion Hutton (1940)
        - Green Acres by Vic Mizzy, Eddie Albert and Eva Gabor (1965)
          - Bonus (A Side) by Hashim (1983)
          - Change the Beat (Female Version) by Beside (1982)
        - Synthetic Substitution by Melvin Bliss (1973)
  - Rock Music by Jefferson Starship (1979)

Info: Rock 'N Roll Dude is a lyrical samples.

- Audio Two, "Top Billin'" (1987)
  - Impeach the President by The Honey Drippers (1973)
  - Go Stetsa I by Stetsasonic (1986)
    - Looking Out My Window by Tom Jones (1968)
    - Brooklyn's in the House by Cutmaster D.C. (1986)
    - Scratchin' by The Magic Disco Machine (1975)
    - It's Yours by T La Rock and Jazzy Jay (1984)
      - I Like Funky Music by Uncle Louie (1979)
    - Daisy Lady by 7th Wonder (1979)
    - The Wildstyle by Time Zone (1983)
      - Good Times by Chic (1979)
      - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
      - Feel Me by Blancmange (1982)
  - I Believe in Music by The Kay-Gees (1976)
  - Here We Go (Live at the Funhouse) by Run-DMC (1985)
    - The Big Beat by Billy Squier (1980)
    - Hollis Crew (Krush Groove 2) by Run-DMC (1983)
    - AJ Scratch by Kurtis Blow (1984)
      - The Breaks by Kurtis Blow (1980)
      - Kool Is Back by Funk, Inc. (1971)

- Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
- I Can't Stop by John Davis and the Monster Orchestra (1976)
- Take Me to the Mardi Gras by Bob James (1975)
- And You Know That by TJ Swann (1979)
- Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
- Hand, Hand, Fingers, Thumb by Al Perkins (1969)

- Eric B. & Rakim, "Eric B. Is President" (1987)
  - Can't Get Away (Special Club "Dub" Mix) by Carol Williams (1983)
  - Can't Get Away (From Your Love) by Carol Williams (1982)

Info: Can't Get Away (Special Club "Dub" Mix) is a remix of 1982 original

- Mantronix, "King of the Beats" (1988)
  - Amen, Brother by The Winstons (1969)
  - Same Old Thing by The Meters (1969)
  - Jungle Jazz by Kool & the Gang (1975)
  - Pump That Bass by Original Concept (1986)
    - Close (To the Edit) by Art of Noise (1984)
      - Leave It by Yes (1983)
      - Owner of a Lonely Heart by Yes (1983)
      - Beer Barrel Polka (Roll Out the Barrel) by The Andrews Sisters (1939)
      - ARR1 by Fairlight CMI (1980)
      - Dance to the Drummer's Beat by Herman Kelly & Life (1978)
      - (Nothing Serious) Just Buggin' by Whistle (1986)
      - In the Hall of the Mountain King by Edvard Grieg (1876)
      - Celebrate the Good Things by Pleasure (1978)
      - The Bugger Groove by The Buggers (1984)
        - There Is a Sixth Dimension from The Twilight Zone (1959)
      - Trailer from Tarzan the Ape Man (1932)
      - Beats and Rhymes by UTFO (1984)
        - Five O'Clock Whistle by Glenn Miller feat. Marion Hutton (1940)
      - Green Acres by Vic Mizzy, Eddie Albert and Eva Gabor (1965)
        - Bonus (A Side) by Hashim (1983)
        - Change the Beat (Female Version) by Beside (1982)
    - Take Me to the Mardi Gras by Bob James (1975)
    - Celebrate the Good Things by Pleasure (1978)
    - Scratchin' by The Magic Disco Machine (1975)
    - Hand Clapping Song by Josie and the Pussycats (2) (1966)
    - Do the Funky Penguin by Rufus Thomas (1971)
    - Mars Needs Women from Mars Needs Women (1967)

-Electronic Energy Of... by Mantronix (1986)

Info: Electronic Energy Of... is an example for resampling

- N.W.A, "Straight Outta Compton" (1988)
  - Amen, Brother by The Winsons (1969)
  - You'll Like It Too by Funkadelic (1981)
  - Get Me Back on Time, Engine #9 by Wilson Pickett (1970)
  - Burn Rubber on Me (Why You Wanna Hurt Me) by The Gap Band (1980)
  - Take Me to the Mardi Gras by Bob James (1975)
  - West Coast Poplock by Ronnie Hudson & The Street People (1982)
  - It's My Turn by Dezo Daz feat. DJ Slip (1987)
    - Gimme Some More by The J.B.'s (1970)
    - Get Up (I Feel Like Being A) Sex Machine by James Brown (1970)
    - Hot Pants Pt. 1 (She Got to Use What She Got to Get What She Wants) by James Brown (1971)
    - Paul Revere by Beastie Boys (1986)
      - It's Yours by T La Rock and Jazzy Jay (1984)
      - I Like Funky Music by Uncle Louie (1979)
      - Daisy Lady by 7th Wonder (1979)
      - The Wildstyle by Time Zone (1983)
      - Good Times by Chic (1979)
      - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
      - Feel Me by Blancmange (1982)
      - I Believe in Music by The Kay-Gees (1976)
    - Rocket in the Pocket (Live) by Cerrone (1978)
    - Hardcore Hip Hop by Mantronix (1985)
      - Change the Beat (Female Version) by Beside (1982)
    - Funky President (People It's Bad) by James Brown (1974)
- N.W.A, "Gangsta Gangsta" (1988)
  - Weak at the Knees by Steve Arrington (1983)
  - Be Thankful for What You Got by William DeVaughn (1974)
  - N.T. by Kool & the Gang (1971)
  - Troglodyte (Cave Man) by The Jimmy Castor Bunch (1972)
  - Impeach the President by The Honey Drippers (1973)
  - Girls by Beastie Boys (1986)
  - God Make Me Funky by The Headhunters feat. Pointer Sisters (1975)
  - Take the Money and Run by Steve Miller Band (1976)
  - Sonnet to My Idol by Lady Reed (1974)
  - La Di Da Di by Doug E. Fresh and Slick Rick (1985)
    - Sukiyaki by A Taste of Honey (1980)
    - The Magic Mirror from Snow White and the Seven Dwarfs (1937)
  - My Philosophy by Boogie Down Productions (1988)
  - Eazy-Duz-It by Eazy-E (1988)
    - Sing a Simple Song by Sly & the Family Stone (1968)
    - Ball of Confusion (That's What the World Is Today) by The Temptations (1970),
    - Baby Let Me Take You (In My Arms) by Detroit Emeralds (1972)

- Gumby Theme Song by Art Clokey (1967)
- Impeach the President by The Honey Drippers (1973)
- Get Off Your Ass and Jam by Funkadelic (1975)
- Hold It Now, Hit It by Beastie Boys (1986)
- Wino Dealing With Dracula by Richard Pryor (1974)
- My Melody by Eric B. & Rakim (1987)
- The Back Down by Richard Pryor (1974)
- Change the Beat (Female Version) by Beside (1982)
- Bass (Original) by King Tee (1987)
- Go See the Doctor by Kool Moe Dee (1986)
- Bootzilla by Bootsy's Rubber Band (1978)
- Terminator X Speaks With His Hands by Public Enemy (1987)
  - No Sleep Till Brooklyn by Beastie Boys (1986)
- It's My Turn by Dezo Daz feat. DJ Slip (1987)
  - Gimme Some More by The J.B.'s (1970)
  - Get Up (I Feel Like Being A) Sex Machine by James Brown (1970)
  - Hot Pants Pt. 1 (She Got to Use What She Got to Get What She Wants) by James Brown (1971)
  - Paul Revere by Beastie Boys (1986)
    - It's Yours by T La Rock and Jazzy Jay (1984)
    - I Like Funky Music by Uncle Louie (1979)
    - Daisy Lady by 7th Wonder (1979)
    - The Wildstyle by Time Zone (1983)
    - Good Times by Chic (1979)
    - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
    - Feel Me by Blancmange (1982)
    - I Believe in Music by The Kay-Gees (1976)
  - Rocket in the Pocket (Live) by Cerrone (1978)
  - Hardcore Hip Hop by Mantronix (1985)
    - Change the Beat (Female Version) by Beside (1982)
    - Funky President (People It's Bad) by James Brown (1974)
- Fat Girl by Eazy-E feat. Freshly Done (1987)
- Dopeman by N.W.A (1987)
  - Funky Worm by Ohio Players (1972)
  - Dance to the Drummer's Beat by Herman Kelly & Life (1978)
  - My Posse by C.I.A. (1987)
  - Freestyle Live (Unedited Version) by Roxanne Shanté feat. Biz Markie (1987)
  - Daisy Lady by 7th Wonder (1979)
- Girls by Beastie Boys (1986)
- Boyz-N-The-Hood by Eazy-E (1987)
  - Mr. Big Stuff by Jean Knight (1971)
  - Pump That Bass by Original Concept (1986)
  - I'm a Ho by Whodini (1986), Hold It Now, Hit It by Beastie Boys (1986)

- El Shabazz by LL Cool J (1985)
- I'll Take You There by The Staple Singers (1972)
- Knowledge Me by Original Concept (1986)
- Change the Beat (Female Version) by Beside (1982)
- Pee-Wee's Dance by Joeski Love (1986)
- Surgery (Accapella Samples) by World Class Wreckin' Cru (1985)
- Bang Zoom (Let's Go-Go) by The Real Roxanne feat. Howie Tee (1986)
- Ya Don't Quit by Ice-T (1986)
- Ain't No Half-Steppin' by Big Daddy Kane (1988)
- Blind Alley by The Emotions (1972)
- Ain't No Half Steppin' by Heatwave (1976)
- UFO by ESG (1981)
- Big Water Bed by Monk Higgins and The Specialties (1972)
- The Big Beat by Billy Squier (1980)
- Ease on Down the Road by Diana Ross and Michael Jackson (1978)
- Get Into It by Big Daddy Kane (1987)
- Get Up, Get Into It, Get Involved by James Brown (1970)
- Kool Is Back by Funk, Inc. (1971)
- I Like Funky Music by Uncle Louie (1979)
- Slow Down Commercial by Roy Rogers Restaurants (1985)
- Ruthless Villain by Eazy-E feat. MC Ren (1988)
- Bang on a Drum by Rick Jones (1973)
- The Champ by The Mohawks (1968)
- 8 Ball by N.W.A (1987)
- A Bitch Iz a Bitch by N.W.A (1987)
- Papa Was Too by Joe Tex (1966)

Info: Tracks produced after 1982 are all lyrical samples.

- Eric B. & Rakim, "Microphone Fiend" (1988)
  - School Boy Crush by Average White Band (1975)
  - Change the Beat (Female Version) by Beside (1982)
  - Silly Rabbit, Trix Are for Kids by The Trix Rabbit and The Trix Kids (1954)
- Rob Base & DJ E-Z Rock, "It Takes Two" (1988)
  - Think (About It) by Lyn Collins (1972)
  - Space Dust by Galactic Force Band (1978)

The D.O.C., "It's Funky Enough"

- Misdemeanor by Foster Sylvers (1973)
- It's a New Day So Let a Man Come in and Do the Popcorn by James Brown (1971)
- Funky President (People It's Bad) by James Brown (1974)
- Stone to the Bone by James Brown (1973)
- Brother Hominy Grit by Lightnin' Rod (1973)
- 8 Ball by N.W.A (1987)
  - Let's Get It On by Marvin Gaye (1973)
  - (You Gotta) Fight for Your Right (To Party!) by Beastie Boys (1986)

- Paul Revere by Beastie Boys (1986)
- It's My Beat by Sweet Tee and Jazzy Joyce (1986)
  - Funky Drummer by James Brown (1970)
  - Catch the Beat by T-Ski Valley (1983)
  - Pee-Wee's Dance by Joeski Love (1986)
  - Burn Rubber on Me (Why You Wanna Hurt Me) by The Gap Band (1980)
- My Melody by Eric B. & Rakim (1987)
  - Scratchin' by The Magic Disco Machine (1975)
- Go See the Doctor by Kool Moe Dee (1986)
  - Funky Drummer by James Brown (1970)
  - Hey, Good Lookin' by Hank Williams (1951)
- Too Much Posse by Public Enemy (1987)
  - Funky Drummer by James Brown (1970)
- It's Yours by T La Rock and Jazzy Jay (1984)
- (Nothing Serious) Just Buggin' by Whistle (1986)
- Terminator X Speaks With His Hands by Public Enemy (1987)
- Boyz-N-The-Hood by Eazy-E (1987)
- Flick of the Switch by AC/DC (1983)
- Dog'n the Wax by Ice-T (1986)
  - Raptivity by Ronnie Gee (1980)
  - My Adidas by Run-DMC (1986)
  - Ya Don't Quit by Ice-T (1986)
  - I Can't Stop by John Davis and the Monster Orchestra (1976)
  - Change the Beat (Female Version) by Beside (1982)
- The Payback by James Brown (1973)
- Fat Girl by Eazy-E feat. Freshly Done (1987)
  - No Sleep Till Brooklyn by Beastie Boys (1986)
- West Coast Poplock by Ronnie Hudson & The Street People (1982)
- Girls by Beastie Boys (1986)
- Ain't We Funkin' Now by The Brothers Johnson (1978)
- Celebrate the Good Things by Pleasure (1978)

Info: 8 Ball includes many samples most of has mentioned before and it's a lyrical sample. If the record sampled in a sample track and you cannot find information, please check the information above to find the record.

- Loleatta Holloway, "Crash Goes Love (Yell Apella)" (1992)  
Info: This song is a lyrical sample source.
- Wu-Tang Clan, "C.R.E.A.M." (1993)
  - As Long as I've Got You by The Charmels (1967)
  - Money (Dollar Bill Y'all) by Jimmy Spicer (1983)
- KRS-One, "Sound of Da Police" (1993)
  - Sing a Simple Song by Sly & the Family Stone (1968)
  - Inside Looking Out by Grand Funk Railroad (1969)
  - Necessary by Boogie Down Productions (1988)
 Info: Necessary is a lyrical sample.
- Mobb Deep, "Shook Ones Part II" (1994)

- Jessica by Herbie Hancock (1969)
- Kitty With the Bent Frame by Quincy Jones (1971)
- Dirty Feet by Daly-Wilson Big Band (1975)
- Shook Ones Part I by Mobb Deep (1994)
  - Blow Your Head by Fred Wesley and The J.B.'s (1974)
  - AJ Scratch by Kurtis Blow (1984)
    - The Breaks by Kurtis Blow (1980)
    - Kool Is Back by Funk, Inc. (1971)
    - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
    - I Can't Stop by John Davis and the Monster Orchestra (1976),
    - Take Me to the Mardi Gras by Bob James (1975)
    - And You Know That by TJ Swann (1979)
    - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
- Feel the Heartbeat by The Treacherous Three (1981)

Info: Mobb Deep is an example for self sampling and it is a lyrical sample.

- The Notorious B.I.G. feat. Total, "Juicy" (1994)
  - Juicy Fruit (Fruity Instrumental Mix) by Mtume (1983)
    - Juicy Fruit by Mtume (1983)
  - Rappin' Duke by Rappin' Duke (1985)
    - Rapper's Delight by Sugarhill Gang (1979)
    - I Feel for You by Chaka Khan feat. Grandmaster Melle Mel and Stevie Wonder (1984)
      - Old Folks at Home by Stephen Foster (1851)
      - Tit-Willow by Gilbert and Sullivan (1885)
      - The Ballad of Jed Clampett by Flatt & Scruggs (1963)
      - Change the Beat (Female Version) by Beside (1982)

- Lil Jon and The East Side Boyz, "Who U Wit?" (1997)
- Info: This song is an example for lyrical samples.

- DJ Trace and Pete Parsons, "1 Sniper" (1999)
  - Mutant Revisited by DJ Trace (1996)
    - The Flow (Alex Reece Mix) by Model 500 (1995)
    - Tighten Up by James Brown (1993)
      - Tighten Up by Archie Bell & the Drells (1968)
      - Amen, Brother by The Winsons (1969)
  - Hot Pants (Bonus Beats) by Bobby Byrd (1987)
    - Hot Pants - I'm Coming, I'm Coming, I'm Coming by Bobby Byrd (1972)

Info: Both Tighten Up is a cover and Hot Pants (Bonus Beats) is a remix of tracks produced before 1982.

- YG, "I'm Good" (2011)
- Info: This song is an example for lyrical samples.

## APPENDIX D

**Table D.1** : Kon + Amir Present: The 50 Greatest Hip-Hop Samples Of All Time (Abdullah & Taylor, 2017)

Number	Artist-Song	Year
1	David Axelrod, "Holy Thursday"	1968
2	Les Demerle, "A Day In The Life"	1973
3	Clyde McPhatter, "The Mixed Up Cup"	1970
4	The J.B.'s, "The Grunt"	1970
5	Bob Azzam and His Orchestra, "Rain, Rain, Go Away"	1968
6	Richard "Popcorn" Wylie, "Both Ends Against The Middle"	1974
7	Monty Alexander, "Love and Happiness"	1974
8	David Axelrod, "A Divine Image"	1969
9	Brian Bennett, "Solstice"	1978
10	Placebo, "Humpty Dumpty"	1971
11	David McCallum, "The Edge"	1967
12	Brethren, "Outside Love"	1970
13	Eugene McDaniels, "Jagger the Dagger"	1971
14	Third Guitar, "Baby Don't Cry"	1968
15	Billy Garner, "I Got Some"	1971
16	The Heath Brothers, "Smilin Billy Suite Pt. II"	1975

17	Billy Brooks, "Forty Days"	1974
18	Jack Wilkins, "Red Clay"	1973
19	Gwen McCrae, "90% of Me is You"	1975
20	Weldon Irvine, "We Gettin' Down"	1975
21	Tom Scott and The California Dreamers, "Today"	1967
22	The 24-Carat Black, "Ghetto: Misfortune's Wealth"	1973
23	Minnie Ripperton, "Inside My Love"	1975
24	Ray Bryant, "Up Above the Rock"	1968
25	Ronnie Foster, "Mystic Brew"	1972
26	Kool and the Gang, "Who's Gonna Take the Weight"	1970
27	Bernard Wright, "Haboglabotribin"	1979
28	Manzel, "Space Funk"	1976
29	James Brown, "Mind Power"	1973
30	The Meters, "Look-Ka Py Py"	1969
31	The J.B.'s, "Pass the Peas"	1972
32	Isaac Hayes, "Walk On By"	1969
33	Bill Doggett, "Honky Tonk Popcorn"	1970
34	Thunder and Lightning, "Bumpin' Bus Stop"	1975
35	Cymande, "The Message"	1972
36	Kool and the Gang, "Let the Music Take Your Mind"	1969

37	Kid Dynamite, "Uphill Peace of Mind"	1976
38	Babe Ruth, "The Mexican"	1972
39	The Ohio Players, "Funky Worm"	1972
40	Foster Sylvers, "Misdemeanor"	1973
41	Kool and the Gang, "Chocolate Buttermilk"	1969
42	Maceo & The Macks, "Soul Power"	1974
43	The Meters, "Cardova"	1969
44	James Brown, "Funky President"	1974
45	Manzel, "Midnight Theme"	1976
46	Isaac Hayes, "Hyperbolicsyllabicsesquedalymistic"	1969
47	James Brown, "Give It Up Or Turnit A Loose (Remix)"	1969
48	Skull Snaps, "It's A New Day"	1973
49	Melvin Bliss, "Synthetic Substitution"	1973
50	The Honey Drippers, "Impeach the President"	1973

## APPENDIX E

Table E.1 : 100 Greatest Hip-Hop Songs of All Time list (Rubin, et al., 2017)

	Artist-Song	Year	Number of sample produced before 82'	Number of sample produced after 82'
1	Grandmaster Flash and the Furious Five, "The Message"	1982	1	0
2	Sugarhill Gang, "Rapper's Delight"	1979	4	0
3	Afrika Bambaataa and the Soulsonic Force, "Planet Rock"	1982	5	0
4	Run-DMC, "Sucker M.C.'s"	1983	0	0
5	Geto Boys, "Mind Playing Tricks on Me"	1991	2	1
6	Dr. Dre feat. Snoop Doggy Dogg, "Nuthin' but a 'G' Thang"	1992	4	2
7	Public Enemy, "Fight the Power"	1989	16	5
8	The Notorious B.I.G., "Juicy"	1994	0	2
9	N.W.A, "Straight Outta Compton"	1988	6	1
10	Eric B. and Rakim, "Paid in Full"	1987	2	1
11	Wu-Tang Clan, "C.R.E.A.M."	1993	1	1
12	Pete Rock and C.L. Smooth, "They Reminisce Over You (T.R.O.Y.)"	1992	3	0

13	Doug E. Fresh and Slick Rick, “La-Di-Da-Di”	1985	2	0
14	Public Enemy, “Rebel Without a Pause”	1987	5	2
15	N.W.A, “Fuck tha Police”	1988	8	2
16	Jay Z feat. UGK, “Big Pimpin”	1999	0	1
17	Run-DMC, “Peter Piper”	1986	6	0
18	2Pac, “Dear Mama”	1995	2	0
19	Beastie Boys, “Paul Revere”	1986	1	2
20	50 Cent, “In Da Club”	2003	0	0
21	LL Cool J, “Rock the Bells”	1985	2	2
22	EPMD, “Strictly Business”	1988	3	2
23	Eric B. and Rakim, “I Know You Got Soul”	1987	3	0
24	Rob Base and DJ E-Z Rock, “It Takes Two”	1988	2	0
25	Big Daddy Kane, “Ain’t No Half-Steppin”	1988	6	2
26	A Tribe Called Quest feat. Leaders of the New School, “Scenario”	1991	2	0

27	Craig Mack feat. Rampage, the Notorious B.I.G., LL Cool J, Busta Rhymes, “Flava in Ya Ear (Remix)”	1994	1	1
28	Eminem, “Lose Yourself”	2002	0	0
29	LL Cool J, “Mama Said Knock You Out”	1990	5	6
30	The Notorious B.I.G., “Hypnotize”	1997	2	1
31	Nas, “N.Y. State of Mind”	1994	3	2
32	Kanye West, “Jesus Walks”	2004	2	3
33	Jay Z, “99 Problems”	2003	3	3
34	Schoolly D, “P.S.K. What Does It Mean?”	1985	2	0
35	Mobb Deep, “Shook Ones (Part II)”	1994	3	1
36	Ice Cube, “It Was a Good Day”	1992	2	0
37	Outkast, “Rosa Parks”	1998	0	0
38	Missy Elliott, “Get Ur Freak On”	2001	0	1
39	Eminem, “My Name Is”	1998	1	0
40	Kurtis Blow, “The Breaks”	1980	0	0
41	2Pac feat. Dr. Dre and Roger Troutman, “California Love”	1995	3	0

42	Boogie Down Productions, “South Bronx”	1987	4	4
43	Audio Two, “Top Billin”	1987	1	1
44	De La Soul, “Me Myself and I”	1989	4	2
45	Lauryn Hill, “Lost Ones”	1998	1	1
46	Salt-N-Pepa, “Push It”	1986	4	1
47	Funky 4 + 1, “That’s the Joint”	1980	1	0
48	Marley Marl feat. Master Ace, Craig G., Kool G. Rap, Big Daddy Kane, “The Symphony”	1988	2	0
49	Grandmaster Flash and the Furious Five, “The Adventures of Grandmaster Flash on the Wheels of Steel”	1981	10	0
50	Outkast, “B.O.B.”	2000	1	1
51	Public Enemy, “Bring the Noise”	1987	7	2
52	The Notorious B.I.G., “Big Poppa”	1994	0	3
53	Run-DMC, “King of Rock”	1985	0	0
54	Snoop Doggy Dogg, “Gin and Juice”	1993	2	1
55	Grandmaster and Melle Mel, “White Lines (Don’t Don’t Do It)”	1983	1	1
56	Clipse, “Grindin”	2002	2	1

57	The Pharcyde, "Passin' Me By"	1992	7	0
58	Eminem feat. Dido, "Stan"	2000	0	3
59	Doug E. Fresh and the Get Fresh Crew, "The Show"	1985	5	3
60	Beastie Boys, "Hold It, Now Hit It"	1986	6	2
61	Dr. Dre feat. Snoop Doggy Dogg, "Deep Cover"	1991	2	0
62	Cypress Hill, "How I Could Just Kill a Man"	1991	6	1
63	Black Sheep, "The Choice Is Yours (Revisited)"	1991	4	0
64	Sir Mix-A-Lot, "Baby Got Back"	1992	0	4
65	Lil Wayne, "A Milli"	2008	1	2
66	Ice T, "6 'n the Mornin'"	1986	0	0
67	T.I., "What You Know"	2006	2	0
68	Dead Prez, "Hip-Hop"	2000	1	1
69	Kanye West feat. Jay Z, Rick Ross, Bon Iver, Nicki Minaj, "Monster"	2010	0	0
70	Ol' Dirty Bastard, "Brooklyn Zoo"	1995	1	2
71	Jay Z and Kanye West, "Ni**as in Paris"	2011	1	3
72	Wu-Tang Clan, "Protect Ya Neck"	1993	6	3

73	Outkast, "Ms. Jackson"	2000	1	0
74	Gang Starr, "Mass Appeal"	1994	1	2
75	M.O.P., "Ante Up (Robbing-Hoodz Theory)"	2000	1	0
76	Slick Rick, "Children's Story"	1988	2	0
77	A Tribe Called Quest, "Can I Kick It?"	1990	3	0
78	Ultramagnetic MC's, "Ego Trippin'"	1988	4	2
79	Rammellzee and K-Rob, "Beat Bop"	2004	1	0
80	Naughty by Nature, "O.P.P."	1991	2	1
81	Nas, "It Ain't Hard to Tell"	1994	4	1
82	Raekwon feat. Ghostface Killah, Method Man, Cappadonna, "Ice Cream"	1995	2	2
83	Too \$hort, "Freaky Tales"	1987	0	0
84	U.T.F.O., "Roxanne, Roxanne"	1984	2	0
85	Roxanne Shanté, "Roxanne's Revenge"	1984	0	1
86	Jermaine Dupri feat. Jay Z, "Money Ain't a Thang"	1998	1	1
87	Digital Underground, "The Humpty Dance"	1989	4	1
88	MC Shan, "The Bridge"	1986	2	0

89	UGK feat. Outkast, “Int’l Players Anthem (I Choose You)”	2007	1	1
90	Biz Markie, “Just a Friend”	1989	2	0
91	Rick Ross feat. Styles P, “B.M.F. (Blowin’ Money Fast)”	2010	0	1
92	B.G. feat. Big Tymers and Hot Boys, “Bling Bling”	1999	1	0
93	Souls of Mischief, “93 ’til Infinity”	1993	2	0
94	Missy ‘Misdemeanor’ Elliott, “The Rain (Supa Dupa Fly)”	1997	1	1
95	Bone Thugs-N-Harmony, “Tha Crossroads”	1996	1	0
96	Brand Nubian, “Slow Down”	1990	2	2
97	Jay Z and Alicia Keys, “Empire State of Mind”	2009	2	0
98	M.I.A., “Paper Planes”	2007	1	2
99	Lil Jon and the East Side Boyz feat. Ying Yang Twins, “Get Low”	2002	1	1
100	L’Trimm, “Cars With the Boom”	1988	1	0

## APPENDIX F

Sample list of records produced after 1982 from the list of “100 Greatest Hip-Hop Songs of All Time”

- Grandmaster Flash and the Furious Five, “The Message” (1982)  
-Superappin' by Grandmaster Flash and The Furious Five (1979)
- Sugarhill Gang, “Rapper’s Delight” (1979)  
-Good Times by Chic (1979)  
-Here Comes That Sound Again by Love De-Luxe with Hawkshaw's Discophonia (1979)  
-Spoonin' Rap by Spoonie Gee (1979), Fun Loving Rapping from Five on the Black Hand Side (1973)
- Afrika Bambaataa and the Soulsonic Force, “Planet Rock” (1982)  
-Trans-Europe Express by Kraftwerk (1977)  
-The Mexican by Babe Ruth (1972)  
-Numbers by Kraftwerk (1981)  
-ORCH5 by David Vorhaus (1982)  
-Super Sperm by Captain Sky (1978)
- Run-DMC, “Sucker M.C.’s” (1983)
- Geto Boys, “Mind Playing Tricks on Me” (1991)  
-Hung Up on My Baby by Isaac Hayes (1974)  
-The Jam by Graham Central Station (1975)  
-Mind of a Lunatic (Def American Version) by Geto Boys (1990)  
Info: Mind of a Lunatic (Def American Version) is a lyrical sample.
- Dr. Dre feat. Snoop Doggy Dogg, “Nuthin’ but a ‘G’ Thang” (1992)  
-I Want'a Do Something Freaky to You by Leon Haywood (1975)  
-Are You Looking by Congress Alley (1973)  
-Uphill Peace of Mind by Kid Dynamite (1976)  
-West Coast Poplock by Ronnie Hudson & The Street People (1982)  
-B Side Wins Again by Public Enemy (1990)  
-N.T. by Kool & the Gang (1971)  
-The Assembly Line by Commodores (1974)  
-Live Convention '82 (Side B) by DJ Grand Wizard Theodore (1982)  
-Live Convention '82 (Side A) by DJ Grand Wizard Theodore (1982)  
-I Can't Stop by John Davis and the Monster Orchestra (1976)  
-Tougher Than Leather by Run-DMC (1988)  
-Black Steel in the Hour of Chaos by Public Enemy (1988)  
-AJ Scratch by Kurtis Blow (1984)  
-The Breaks by Kurtis Blow (1980)  
-Kool Is Back by Funk, Inc. (1971)  
-Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)  
-I Can't Stop by John Davis and the Monster Orchestra (1976),

- Take Me to the Mardi Gras by Bob James (1975)
- And You Know That by TJ Swann (1979)
- Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
- Together Forever (Krush-Groove 4) (Live at Hollis Park '84) by Run-DMC (1985)
- It's My Thing by EPMD (1987)
  - Hyperbolicsyllabicsesquedalymistic by Isaac Hayes (1969)
  - Living for the City by Stevie Wonder (1973)
  - Little Green Apples by The Escorts (1973)
  - Bring the Noise by Public Enemy (1987)
    - It's My Thing by Marva Whitney(1969)
      - Fire & Fury Grass Roots Speech by Malcolm X (1965)
        - Funky Drummer by James Brown (1970)
        - Get Off Your Ass and Jam by Funkadelic(1975)
        - Get Up, Get Into It, Get Involved by James Brown (1970)
        - Fantastic Freaks at the Dixie by DJ Grand Wizard Theodore and The Fantastic Five (1983)
          - Down by Law by Fab 5 Freddy (1982)
          - I Don't Know What This World Is Coming To by The Soul Children feat. Jesse Jackson (1972)
          - Give It Up or Turnit a Loose (Remix) by James Brown(1986)
            - Give It Up or Turnit a Loose by James Brown (1969)
            - The Assembly Line by Commodores (1974)

Info: Together Forever (Krush-Groove 4) (Live at Hollis Park '84) is a lyrical sample.

- Public Enemy, "Fight the Power" (1989)
  - Funky Drummer by James Brown (1970)
  - Different Strokes by Syl Johnson (1967)
  - Fight the Power by The Isley Brothers (1975)
  - Sing a Simple Song by Sly & the Family Stone (1968)
  - I Don't Know What This World Is Coming To by The Soul Children feat. Jesse Jackson (1972)
  - Hot Pants Road by The J.B.'s (1970)
  - I Shot the Sheriff by Bob Marley and The Wailers (1973)
  - Whatcha See Is Whatcha Get by The Dramatics (1971)
  - Say It Loud, I'm Black and I'm Proud by James Brown (1968)
  - Planet Rock by Afrika Bambaataa and Soulsonic Force (1982)
    - Trans-Europe Express by Kraftwerk (1977)
    - The Mexican by Babe Ruth (1972)
    - Numbers by Kraftwerk (1981)
    - ORCH5 by David Vorhaus (1982)

- Super Sperm by Captain Sky (1978)
- I Know You Got Soul by Bobby Byrd (1971)
- Funky President (People It's Bad) by James Brown (1974)
- Teddy's Jam by Guy (1988)
  - The Champ by The Mohawks (1968)
  - Pump Me Up by Trouble Funk (1982)
- Pump Me Up by Trouble Funk (1982)
- Let's Dance (Make Your Body Move) by West Street Mob (1981)
- Give It to Me Baby by Rick James (1981)
- Saturday Night Live From Washington DC Pt. 1 by Trouble Funk (1983)
- AJ Scratch by Kurtis Blow (1984)
  - The Breaks by Kurtis Blow (1980)
  - Kool Is Back by Funk, Inc. (1971)
  - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
  - I Can't Stop by John Davis and the Monster Orchestra (1976)
  - Take Me to the Mardi Gras by Bob James (1975)
  - And You Know That by TJ Swann (1979)
  - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
- Rock 'N Roll Dude by Chubb Rock (1987)
  - When Boys Talk by Indeeep (1983)
  - The Record Keeps Spinning by Indeeep (1984)
- Love Rap by Spoonie Gee and The Treacherous Three (1980)
- Yo! Bum Rush the Show by Public Enemy (1987)
  - Shack Up by Banbarra (1975)

Info: All the productions after 82' are lyrical samples.

- The Notorious B.I.G. feat. Total, "Juicy" (1994)
  - Juicy Fruit (Fruity Instrumental Mix) by Mtume (1983)
    - Juicy Fruit by Mtume (1983)
  - Rappin' Duke by Rappin' Duke (1985)
    - Rapper's Delight by Sugarhill Gang (1979)
    - I Feel for You by Chaka Khan feat. Grandmaster Melle Mel and Stevie Wonder (1984)
      - Old Folks at Home by Stephen Foster (1851)
      - Tit-Willow by Gilbert and Sullivan (1885)
      - The Ballad of Jed Clampett by Flatt & Scruggs (1963)
      - Change the Beat (Female Version) by Beside (1982)
- N.W.A, "Straight Outta Compton" (1988)
  - Amen, Brother by The Winstons (1969)
  - You'll Like It Too by Funkadelic (1981)
  - Get Me Back on Time, Engine #9 by Wilson Pickett (1970)
  - Burn Rubber on Me (Why You Wanna Hurt Me) by The Gap Band (1980)
  - Take Me to the Mardi Gras by Bob James (1975)
  - West Coast Poplock by Ronnie Hudson & The Street People (1982)
  - It's My Turn by Dezo Daz feat. DJ Slip (1987)
    - Gimme Some More by The J.B.'s (1970)
    - Get Up (I Feel Like Being A) Sex Machine by James Brown (1970)
    - Hot Pants Pt. 1 (She Got to Use What She Got to Get What She Wants) by James Brown (1971)

- Paul Revere by Beastie Boys (1986)
  - It's Yours by T La Rock and Jazzy Jay (1984)
    - I Like Funky Music by Uncle Louie (1979)
      - Daisy Lady by 7th Wonder (1979)
      - The Wildstyle by Time Zone (1983)
        - Good Times by Chic (1979)
          - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
            - Feel Me by Blancmange (1982)
              - I Believe in Music by The Kay-Gees (1976)
    - Rocket in the Pocket (Live) by Cerrone (1978)
    - Hardcore Hip Hop by Mantronix (1985)
      - Change the Beat (Female Version) by Beside (1982)
  - Funky President (People It's Bad) by James Brown (1974)
- Eric B. and Rakim, "Paid in Full" (1987)
  - Ashley's Roachclip by The Soul Searchers (1974)
  - Don't Look Any Further by Dennis Edwards feat. Siedah Garrett (1984)
  - Change the Beat (Female Version) by Beside (1982)
  - Info: Don't Look Any Further do not contains any samples and its bassline has been sampled but because it is realased in 1984, it can be neglated.
- Wu-Tang Clan, "C.R.E.A.M." (1993)
  - As Long as I've Got You by The Charmels (1967)
  - Money (Dollar Bill Y'all) by Jimmy Spicer (1983)
  - Info: Money (Dollar Bill Y'all) is a lyrical sample.
- Pete Rock and C.L. Smooth, "They Reminisce Over You (T.R.O.Y.)" (1992)
  - Today by Tom Scott and The California Dreamers (1967)
  - When She Made Me Promise by The Beginning of the End (1971)
  - Say It Loud, I'm Black and I'm Proud by James Brown (1968)
- Doug E. Fresh and Slick Rick, "La Di Da Di" (1985)
  - Sukiyaki by A Taste of Honey (1980)
  - The Magic Mirror from Snow White and the Seven Dwarfs (1937)
- A Tribe Called Quest feat. Leaders of the New School, "Scenario" (1991)
  - Little Miss Lover by Jimi Hendrix (1967)
  - Oblighetto by Brother Jack McDuff (1970)
- Craig Mack feat. Rampage, the Notorious B.I.G., LL Cool J, Busta Rhymes, "Flava in Ya Ear (Remix)" (1994)
  - Jingling Baby by LL Cool J (1989)
    - Scorpio by Rhythm Addicts (1975)
      - Hihache by Lafayette Afro Rock Band (1973)
        - Main Theme (Black Belt Jones) by Dennis Coffey and Luchi De Jesus (1974)
  - Warriors Come Out and Play from The Warriors (1979)
- Eminem, "Lose Yourself" (2002)

Info: This song is not a sample-based hip-hop song.

- LL Cool J, “Mama Said Knock You Out” (1990)
  - Trip to Your Heart by Sly & the Family Stone (1967)
  - Funky Drummer by James Brown (1970)
  - Gangster Boogie by Chicago Gangsters (1975)
  - The Humpty Dance by Digital Underground (1989)
    - Let's Play House by Parliament (1980)
    - Humpty Dump by The Vibrettes (1973)
    - Sing a Simple Song by Sly & the Family Stone (1968)
    - Theme From the Black Hole by Parliament (1979)
    - Doowutchyalike by Digital Underground (1989)
      - Flash Light by Parliament (1977)
      - I Get Lifted by KC & the Sunshine Band feat. George McCrae (1975)
      - Sexuality by Prince (1981)
      - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
      - Agony of Defeat by Parliament (1980), All Your Goodies Are Gone by Parliament (1974)
      - Keep Risin' to the Top by Doug E. Fresh (1988)
      - Atomic Dog by George Clinton (1982)
      - Good Times by Chic (1979)
      - Bite It by UTFO (1985), Westchester Lady by Bob James (1976)
      - Rescue Me by Al B. Sure! (1988)
      - I Know You Got Soul by Eric B. & Rakim (1987)
      - (Nothing Serious) Just Buggin' by Whistle (1986)
      - Ain't No Half-Steppin' by Big Daddy Kane (1988)
  - Hook and Sling - Part I by Eddie Bo (1969)
  - Raw by Big Daddy Kane (1987)
    - Hot Pants (Bonus Beats) by Bobby Byrd (1987)
      - I'm Coming, I'm Coming, I'm Coming by Bobby Byrd (1972)
    - Mama Feelgood by Lyn Collins (1973)
    - Get on the Good Foot by James Brown (1972)
  - Rock the Bells by LL Cool J (1985)
    - Flick of the Switch by AC/DC (1983)
    - Saturday Night Live From Washington D.C. Pt. 2 by Trouble Funk (1983)
      - Rocket in the Pocket (Live) by Cerrone (1978)
      - Good Times by Chic (1979)
  - Do or Die Bed Sty by Divine Sounds (1984)
    - Change the Beat (Female Version) by Beside (1982)
  - Spoonin' Rap by Spoonie Gee (1979)
  - City of Crime by Dan Aykroyd and Tom Hanks (1987)
  - How Ya Like Me Now by Kool Moe Dee (1987)
    - Night Train by James Brown (1962)
    - Papa's Got a Brand New Bag by James Brown (1965)
    - Talkin' Loud & Sayin' Nothing (Pt 1 & 2) by James Brown (1970)

Info: All produced after 1983 are lyrical samples.

- The Notorious B.I.G., “Hypnotize” (1997)
  - Rise by Herb Alpert (1979)
  - La Di Da Di by Doug E. Fresh and Slick Rick (1985)
    - Sukiyaki by A Taste of Honey (1980)
    - The Magic Mirror from Snow White and the Seven Dwarfs (1937)
  - Da Doo Ron Ron (When He Walked Me Home) by The Crystals (1963)
  
- Nas, “N.Y. State of Mind” (1994)
  - Mind Rain by Joe Chambers (1977)
  - Flight Time by Donald Byrd (1973)
  - N.T. by Kool & the Gang (1971)
  - Mahogany by Eric B. & Rakim (1990)
    - I'm Glad You're Mine by Al Green (1972)
  - Live at the Barbeque by Main Source feat. Nas, Joe Fatal and Akinyele (1991)
    - Nautilus by Bob James (1974)
    - In the Land of Milk and Honey by Vicki Anderson (1971)
    - The Man Tries Running His Usual Game but Sweetback's Jones Is So Strong He... by Melvin Van Peebles feat. Earth, Wind & Fire (1971)
    - Hollis Crew (Krush Groove 2) by Run-DMC (1983)
    - Just Hangin' Out by Main Source (1991)
      - Bam Bam by Sister Nancy (1982)
      - “90%” of Me Is You by Vanessa Kendrick (1973)
      - Season of the Witch by Mike Bloomfield, Al Kooper and Stephen Stills (1968)
      - I Turn My Back on Love by Skull Snaps (1973)
      - Hang Out & Hustle by “Sweet” Charles Sherrell (1975)
  
- Kanye West, “Jesus Walks” (2004)
  - (Don't Worry) if There's a Hell Below, We're All Going to Go by Curtis Mayfield (1970)
    - Walk With Me by The ARC Choir (1997)
    - Ode to Billie Joe by Lou Donaldson (1967)
    - Keep It Rollin' by A Tribe Called Quest feat. Large Professor (1993)
      - Feel Like Makin' Love by Roy Ayers Ubiquity (1974)
      - I Love You by Barney (1993)
    - Manual of Arms by Authentic Sound Effects (1987)
    - I Eat Pieces of Shit Like You for Breakfast from Happy Gilmore (1996)
      - Info: I Love You, Walk With Me, Manual of Arms and I Eat Pieces of Shit Like You for Breakfast are lyrical samples.
  
- Jay Z, “99 Problems” (2003)
  - The Big Beat by Billy Squier (1980)
  - Long Red by Mountain (1972)
  
- Schoolly D, “P.S.K. What Does It Mean?” (1985)
  - Change the Beat (Female Version) by Beside (1982)
  - The Decoys of Ming the Merciless by Jackson Beck (1966)

- Mobb Deep, “Shook Ones Part II” (1994)
  - Jessica by Herbie Hancock (1969)
  - Kitty With the Bent Frame by Quincy Jones (1971)
  - Dirty Feet by Daly-Wilson Big Band (1975)
  - Shook Ones Part I by Mobb Deep (1994)
    - Blow Your Head by Fred Wesley and The J.B.'s (1974)
    - AJ Scratch by Kurtis Blow (1984)
      - The Breaks by Kurtis Blow (1980)
      - Kool Is Back by Funk, Inc. (1971)
      - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
      - I Can't Stop by John Davis and the Monster Orchestra (1976),
      - Take Me to the Mardi Gras by Bob James (1975)
      - And You Know That by TJ Swann (1979)
      - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
  - Feel the Heartbeat by The Treacherous Three (1981)

Info: Mobb Deep is an example for self sampling and lyrical samples.
- Ice Cube, “It Was a Good Day” (1992)
  - Footsteps in the Dark by The Isley Brothers (1977)
  - Sexy Mama by The Moments (1973)
- Outkast, “Rosa Parks” (1998)
 

Info: It's a not sample-based hip-hop track
- Missy Elliott, “Get Ur Freak On” (2001)
  - Is That Your Chick (The Lost Verses) by Memphis Bleek feat. Jay-Z, Twista and Missy Elliott (2000)

Info: Is That Your Chick (The Lost Verses) is a lyrical sample and other than that track is not a sample-based hip-hop song.
- Eminem, “My Name Is” (1994)
  - I Got The... by Labi Siffre (1974)
- Kurtis Blow, “The Breaks” (1980)
  - Rapper's Delight by Sugarhill Gang (1979)
- 2Pac feat. Dr. Dre and Roger Troutman, “California Love” (1995)
  - Woman to Woman by Joe Cocker (1972)
  - Dance Floor by Zapp (1982)
  - West Coast Poplock by Ronnie Hudson & The Street People (1982)
- Boogie Down Productions, “South Bronx” (1987)
  - Get Up Offa That Thing by James Brown (1976)
  - Get Up, Get Into It, Get Involved by James Brown (1970)
  - Funky Drummer by James Brown (1970)
  - Love Potion-Cheeba-Cheeba by Mighty Tom Cats (1973)
  - The Bridge by MC Shan (1986)
    - Impeach the President by The Honey Drippers (1973)

- Scratchin' by The Magic Disco Machine (1975)
  - AJ Scratch by Kurtis Blow (1984)
    - The Breaks by Kurtis Blow (1980)
    - Kool Is Back by Funk, Inc. (1971)
    - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
    - I Can't Stop by John Davis and the Monster Orchestra (1976),
    - Take Me to the Mardi Gras by Bob James (1975)
    - And You Know That by TJ Swann (1979)
    - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
  - The Rifleman by TeeVee Toons, Inc. (1985)
    - The Rifleman Theme by Herschel Burke Gilbert (1958)
  - Unity Skit 3 by Afrika Bambaataa and James Brown (1984)
- Info: The Rifleman is a cover of 1958 original and Unity Skit 3 is a lyrical sample.

- Audio Two, "Top Billin'" (1987)
  - Impeach the President by The Honey Drippers (1973)
  - Go Stetsa I by Stetsasonic (1986)
    - Looking Out My Window by Tom Jones (1968)
    - Brooklyn's in the House by Cutmaster D.C. (1986)
    - Scratchin' by The Magic Disco Machine (1975)
    - It's Yours by T La Rock and Jazzy Jay (1984)
      - I Like Funky Music by Uncle Louie (1979)
    - Daisy Lady by 7th Wonder (1979)
    - The Wildstyle by Time Zone (1983)
      - Good Times by Chic (1979)
      - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
      - Feel Me by Blancmange (1982)
  - I Believe in Music by The Kay-Gees (1976)
    - Here We Go (Live at the Funhouse) by Run-DMC (1985)
      - The Big Beat by Billy Squier (1980)
      - Hollis Crew (Krush Groove 2) by Run-DMC (1983)
      - AJ Scratch by Kurtis Blow (1984)
        - The Breaks by Kurtis Blow (1980)
        - Kool Is Back by Funk, Inc. (1971)
        - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
        - I Can't Stop by John Davis and the Monster Orchestra (1976)
        - Take Me to the Mardi Gras by Bob James (1975)
        - And You Know That by TJ Swann (1979)
        - Adventures of -Super Rhyme (Rap) by Jimmy Spicer (1980)
      - Hand, Hand, Fingers, Thumb by Al Perkins (1969)
- De La Soul, "Me Myself and I" (1989)
  - (Not Just) Knee Deep by Funkadelic (1979)
  - Funky Worm by Ohio Players (1972)
  - Rapper Dapper Snapper by Edwin Birdsong (1980)
  - Gonna Make You Mine by Loose Ends (1986)

-The Original Human Beat Box by Doug E. Fresh (1984)  
 -The Magic Mirror from Snow White and the Seven Dwarfs (1937)  
 Info: Gonna Make You Mine and The Original Human Beat are lyrical samples.

- Lauryn Hill, “Lost Ones” (1998)
  - Bam Bam by Sister Nancy (1982)
  - Super Hoe by Boogie Down Productions (1987)
    - Last Night Changed It All (I Really Had a Ball) by Esther Williams (1976)
    - Super Sperm by Captain Sky (1978)
- Salt-N-Pepa, “Push It” (1986)
  - You Really Got Me by The Kinks (1964)
  - Keep on Pushin' by Coal Kitchen (1977)
  - I'm a Greedy Man by James Brown (1971)
  - There It Is by James Brown (1972)
- Funky 4 + 1, “That’s the Joint” (1980)
  - Rescue Me by A Taste of Honey (1980)
- Marley Marl feat. Master Ace, Craig G., Kool G. Rap, Big Daddy Kane, “The Symphony” (1988)
  - Hard to Handle by Otis Redding (1968)
  - Do It Your Way by Rory-O and Chuck Colbert (1973)
- Grandmaster Flash and the Furious Five, “The Adventures of Grandmaster Flash on the Wheels of Steel” (1981)
  - Another One Bites the Dust by Queen (1980)
  - Apache by Incredible Bongo Band (1973)
  - Rapture by Blondie (1980)
  - Life Story by The Hellers (1968)
  - Good Times by Chic (1979)
  - The Decoys of Ming the Merciless by Jackson Beck (1966)
  - Monster Jam by Spoonie Gee and The Sequence (1980)
  - 8th Wonder by Sugarhill Gang (1981)
  - The Birthday Party by Grandmaster Flash and The Furious Five (1980)
  - Freedom by Grandmaster Flash and The Furious Five (1980)
- Outkast, “B.O.B.” (2000)
  - Get on the Good Foot by James Brown (1972)
  - ATLiens by OutKast (1996)
    - Around the World by Attilio Mineo (1962)
    - So Tired by The Chambers Brothers (1967)
    - Southernplayalisticadillacmuzik by OutKast (1994)
      - Knucklehead by Grover Washington, Jr. (1975)
      - Lady Marmalade by The Eleventh Hour (1974)
    - Return of the B-Boy by The Pharcyde (1992)
    - Two by Madhouse (1987)

- The Show by Doug E. Fresh, Slick Rick and The Get Fresh Crew (1985)
- The Roof Is on Fire by Rock Master Scott and the Dynamic Three (1985)
- Rock the Bells by LL Cool J (1985)
- D'Ya Like Scratchin'? by Malcolm McLaren and World's Famous Supreme Team (1983)
- Fire, Ball - Impact and Large Fire Burst, Rumble by Sound Ideas (1992)

Info: Return of the B-Boy is a lyrical sample therefore investigating its samples more is irrelevant. Fire, Ball - Impact and Large Fire Burst, Rumble is a surface sample.

- Public Enemy, "Bring the Noise" (1987)
  - It's My Thing by Marva Whitney(1969)
  - Fire & Fury Grass Roots Speech by Malcolm X (1965)
  - Funky Drummer by James Brown (1970)
  - Get Off Your Ass and Jam by Funkadelic(1975)
  - Get Up, Get Into It, Get Involved by James Brown (1970)
  - Fantastic Freaks at the Dixie by DJ Grand Wizard Theodore and The Fantastic Five (1983)
    - Down by Law by Fab 5 Freddy (1982)
  - I Don't Know What This World Is Coming To by The Soul Children feat. Jesse Jackson (1972)
  - Give It Up or Turnit a Loose (Remix) by James Brown(1986)
    - Give It Up or Turnit a Loose by James Brown (1969)
  - The Assembly Line by Commodores (1974)
- The Notorious B.I.G., "Big Poppa" (1994)
  - Between the Sheets by The Isley Brothers (1983)
  - Bad Boys by Bad Boys feat. K Love (1985)
    - Inspector Gadget by Shuki Levy and Haïm Saban (1983)
    - Do or Die Bed Sty by Divine Sounds (1984)
      - Change the Beat (Female Version) by Beside (1982)
  - Dolly My Baby (Bad Boy Extended Mix) by Super Cat and Mary J. Blige feat. The Notorious B.I.G., Puff Daddy and 3rd Eye (1993)
    - Ring a Ring O' Roses by Traditional Folk (1881)
    - Maddy Maddy Cry by Papa San (1991)
    - Watermelon Man by Herbie Hancock (1973)
    - Papa Was Too by Joe Tex (1966)
    - Long Red by Mountain (1972)
    - Blues and Pants by James Brown (1971)

Info: Bad Boys, Dolly My Baby and Maddy Maddy Cry are lyrical samples.

- Run-DMC, "King of Rock" (1985)
  - Info: This song is not a sample-based hip-hop song.
- Snoop Doggy Dogg, "Gin and Juice" (1993)
  - I Get Lifted by George McCrae (1974)
  - Watching You by Slave (1980)

-Bitches Ain't Shit by Dr. Dre and Snoop Dogg feat. Daz Dillinger, Kurupt and Jewell (1992)

-Adolescent Funk by Funkadelic (1976)

-Let's Get Small by Trouble Funk (1982)

-The Bridge by MC Shan (1986)

-Impeach the President by The Honey Drippers (1973)

-Scratchin' by The Magic Disco Machine (1975)

- Grandmaster and Melle Mel, “White Lines (Don’t Don’t Do It)” (1983)

-Cavern by Liquid Liquid (1983)

-Little Jack Horner by Traditional Folk (1725)

- Clipse, “Grindin” (2002)

-Pat-a-cake, Pat-a-cake, Baker's Man by Traditional Folk (1698)

-My Melody by Eric B. & Rakim (1987)

-Scratchin' by The Magic Disco Machine (1975)

-Pusherman by Curtis Mayfield (1972)

The Pharcyde, “Passin’ Me By” (1992)

-Summer in the City by Quincy Jones feat. Valerie Simpson (1973)

-It's a New Day by Skull Snaps (1973)

-Are You Experienced? by Jimi Hendrix (1967)

-125th Street Congress by Weather Report (1973)

-Hill Where the Lord Hides by Eddie Russ (1974)

-Written on the Wall by The Invitations (1965)

-Midnight Theme by Manzel (1979)

- Eminem feat. Dido, “Stan” (2000)

-Thank You by Dido (1999)

-My Name Is by Eminem (1998)

-I Got The... by Labi Siffre (1974)

-Thunder - Thunder Clap and Rumble, Weather 01 by Sound Ideas (1992)

Info: Dido is the featuring artist for this track so it does not count as sampling and Thunder are surface samples. Other than that it is not a sample-based song because it does not include any structural samples.

- Doug E. Fresh and the Get Fresh Crew, “The Show” (1985)

-Inspector Gadget by Shuki Levy and Haïm Saban (1983)

-Michelle by The Beatles (1965)

-Punk Rock Rap by The Cold Crush Brothers (1983)

-Twist and Shout by The Isley Brothers (1962)

Change the Beat (Female Version) by Beside (1982)

-Human Beat Box by Fat Boys (1984)

-Flash to the Beat by Grandmaster Flash (1982)

-Jam on the Groove by Ralph MacDonald (1976)

Info: Human Beat Box and Punk Rock Rap are lyrical samples.

- Beastie Boys, “Hold It, Now Hit It” (1986)

-Take Me to the Mardi Gras by Bob James (1975)

-The Return of Leroy Pt. 1 by The Jimmy Castor Bunch (1977)

- La Di Da Di by Doug E. Fresh and Slick Rick (1985)
  - Sukiyaki by A Taste of Honey (1980)
  - The Magic Mirror from Snow White and the Seven Dwarfs (1937)
- Funky Stuff by Kool & the Gang (1973)
- Christmas Rappin' by Kurtis Blow (1979)
- Drop the Bomb by Trouble Funk (1982)
- Let's Get Small by Trouble Funk (1982)
- Time to Get Ill by Beastie Boys (1986)
  - I'm Gonna Love You Just a Little More Baby by Barry White (1973)
  - Down on the Corner by Creedence Clearwater Revival (1969)
  - Gucci Time by Schoolly D (1985)
  - Custard Pie by Led Zeppelin (1975)
  - Nothing From Nothing by Billy Preston (1974)
  - Mister Ed by Jay Livingston (1961)
  - Take the Money and Run by Steve Miller Band (1976)
  - Flick of the Switch by AC/DC (1983)
  - The Party Scene by The Russell Brothers (1983)
  - Green Acres by Vic Mizzy, Eddie Albert and Eva Gabor (1965)
  - Rocket in the Pocket (Live) by Cerrone (1978)
  - Funky Stuff by Kool & the Gang (1973)
  - I Love Rock 'N' Roll by Joan Jett & the Blackhearts (1981)
  - Jam on the Groove by Ralph MacDonald (1976)

Info: Time to Get Ill is a lyrical sample.

- Dr. Dre feat. Snoop Doggy Dogg, “Deep Cover” (1991)
  - Sing a Simple Song by Sly & the Family Stone (1968)
  - (I Know) I'm Losing You by The Undisputed Truth (1975)
- Cypress Hill, “How I Could Just Kill a Man” (1991)
  - Are You Experienced? by Jimi Hendrix (1967)
  - Reading the Comics - July, 1945 by Fiorello La Guardia (1945)
  - Tramp by Lowell Fulson (1966)
  - Midnight Theme by Manzel (1979)
  - Institutionalized by Suicidal Tendencies (1983)
  - Come on In by The Music Machine (1966)
  - I Got You (I Feel Good) by James Brown (1965)

Info: Institutionalized is a lyrical sample.

- Black Sheep, “The Choice Is Yours (Revisited)” (1991)
  - I'll Say It Again by Sweet Linda Divine (1970)
  - Impressions by McCoy Tyner (1975)
  - Keep on Doin' It by The New Birth (1973)
  - Engine, Engine No. 9 by Roger Miller (1965)
- Sir Mix-A-Lot, “Baby Got Back” (1992)
  - Technicolor by Channel One (1986)
  - Me So Horny from Full Metal Jacket (1987)
  - I Got Game by Sir Mix-a-Lot (1989)
    - Hard to Get by Rick James (1982)
  - Seminar by Sir Mix-a-Lot (1989)

-Irresistible Bitch by Prince (1983)

Info: Technicolor is not a sampled based song, so it is an almost exception because Technicolor song is purely built on electronic instruments it is recreatable.

- Lil Wayne, “A Milli” (2008)

-I Left My Wallet in El Segundo (Vampire Mix) by A Tribe Called Quest (1992)

-Pass the Dutchie by Musical Youth (1982)

-Don't Burn Down the Bridge by Gladys Knight & the Pips (1974)

-Go Crazy (Remix) by Young Jeezy feat. Jay-Z and Fat Joe (2005)

-Go Crazy by Young Jeezy feat. Jay-Z (2005)

-Man Oh Man by The Impressions (1965)

- Ice T, “6 ‘n the Mornin’” (1986)

Info: This song is not a sample-based hip-hop song.

- T.I., “What You Know” (2006)

-Gone Away by Roberta Flack (1970)

-I Believe to My Soul by Donny Hathaway (1970)

- Dead Prez, “Hip-Hop” (2000)

-Trenchtown Rock by Bob Marley and The Wailers (1973)

-Radio Dial Sweeping Across Several News and Music Stations by The Hollywood Edge Sound Effects Library (1990)

Info: Radio Dial Sweeping Across Several News and Music Stations is a surface sample.

- Kanye West feat. Jay Z, Rick Ross, Bon Iver, Nicki Minaj, “Monster” (2010)

Info: This song is not a sample-based hip-hop song.

- Ol’ Dirty Bastard, “Brooklyn Zoo” (1995)

-Step Softly by Bobby Ellis and The Desmond Miles Seven (1967)

-Protect Ya Neck by Wu-Tang Clan (1993)

-The Grunt by The J.B.'s (1970)

-Fame by Irene Cara (1980)

-She'll Be Coming 'Round the Mountain by Traditional Folk (1800)

-Rock the Bells by LL Cool J (1985)

-Fishing from Shaolin and Wu Tang (1981)

-Cowboys to Girls by The Intruders (1968)

-Set It Off by Strafe (1984)

-Fight by the River from Snake and Crane Arts of Shaolin (1978)

-Words From a Genius (Remix) by The Genius (1991)

-Raw by Big Daddy Kane (1987)

-Hot Pants (Bonus Beats) by Bobby Byrd (1987)

-I'm Coming, I'm Coming, I'm Coming by Bobby Byrd (1972)

-Mama Feelgood by Lyn Collins (1973)

-Get on the Good Foot by James Brown (1972)

Info: Protect Ya Neck is a lyrical sample.

- Jay Z and Kanye West, “Ni\*\*as in Paris” (2011)

- Baptizing Scene by Reverend W.A. Donaldson (1960)
- Victory by Puff Daddy feat. The Notorious B.I.G. and Busta Rhymes (1997)
  - Going the Distance by Bill Conti (1976)
  - You Had Too Much to Drink by EPMD (1989)
- Dirty South Bangaz by Big Fish Audio (2011)
- Lady Humps from Blades of Glory (2007)

Info: Lady Humps, Victory, You Had Too Much to Drink are a lyrical sample. Dirty South Bangaz can be count as surface sample.

- Wu-Tang Clan, “Protect Ya Neck” (1993)
  - The Grunt by The J.B.'s (1970)
  - Fame by Irene Cara (1980)
  - She'll Be Coming 'Round the Mountain by Traditional Folk (1800)
  - Rock the Bells by LL Cool J (1985)
    - Flick of the Switch by AC/DC (1983)
    - Saturday Night Live From Washington D.C. Pt. 2 by Trouble Funk (1983)
    - Rocket in the Pocket (Live) by Cerrone (1978)
    - Good Times by Chic (1979)
  - Fishing from Shaolin and Wu Tang (1978)
  - Cowboys to Girls by The Intruders (1968)
  - Set It Off by Strafe (1984)
  - Fight by the River from Snake and Crane Arts of Shaolin (1978)
  - Words From a Genius (Remix) by The Genius (1991)
    - Words From a Genius by The Genius (1991)
    - Different Strokes by Syl Johnson (1967)
    - Top Billin' by Audio Two (1987)
      - Impeach the President by The Honey Drippers (1973)
      - Go Stetsa I by Stetsasonic (1986)
      - Looking Out My Window by Tom Jones (1968)
      - Brooklyn's in the House by Cutmaster D.C. (1986)
      - Scratchin' by The Magic Disco Machine (1975)
      - It's Yours by T La Rock and Jazzy Jay (1984)
        - I Like Funky Music by Uncle Louie (1979)
        - Daisy Lady by 7th Wonder (1979)
        - The Wildstyle by Time Zone (1983)
          - Good Times by Chic (1979)
          - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
          - Feel Me by Blancmange (1982)
        - I Believe in Music by The Kay-Gees (1976)
          - Here We Go (Live at the Funhouse) by Run-DMC (1985)
          - The Big Beat by Billy Squier (1980)

- Hollis Crew (Krush Groove 2)  
by Run-DMC (1983)
- AJ Scratch by Kurtis Blow  
(1984)
- The Breaks by Kurtis  
Blow (1980)
- Kool Is Back by Funk,  
Inc. (1971)
- Bounce, Rock, Skate,  
Roll by Vaughan Mason  
and Crew (1979)
- I Can't Stop by John  
Davis and the Monster  
Orchestra (1976)
- Take Me to the Mardi  
Gras by Bob James (1975)
- And You Know That by  
TJ Swann (1979)
- Adventures of -Super  
Rhyme (Rap) by Jimmy  
Spicer (1980)
- Hand, Hand, Fingers, Thumb  
by Al Perkins (1969)

- Outkast, “Ms. Jackson” (2000)  
-Treulich Geführt by Richard Wagner (1850)  
Info: It is not a sample-based hip-hop song.
- Gang Starr, “Mass Appeal” (1994)  
-Horizon Drive by Vic Juris (1979)  
-Pass Da Mic (Remix) by Da Youngsta's (1992)  
-Pass Da Mic by Da Youngsta's (1992)  
-Feel Like Making Love by Bob James (1974)  
-Do the Funky Penguin by Rufus Thomas (1971)  
-Raw by Big Daddy Kane (1987)  
-Hot Pants (Bonus Beats) by Bobby Byrd (1987)  
-I'm Coming, I'm Coming, I'm Coming by Bobby Byrd (1972)  
-Mama Feelgood by Lyn Collins (1973)  
-Get on the Good Foot by James Brown (1972)
- M.O.P., “Ante Up (Robbing-Hoodz Theory)” (2000)  
-Soul Sister, Brown Sugar by Sam & Dave (1969)
- Slick Rick, “Children’s Story” (1988)  
-Nautilus by Bob James (1974)  
-Change the Beat (Female Version) by Beside (1982)
- A Tribe Called Quest, “Can I Kick It?” (1990)  
-Walk on the Wild Side by Lou Reed (1972)  
-Spinning Wheel by Lonnie Smith (1970)

- Sunshower by Dr. Buzzard's Original Savannah Band (1976)
- Ultramagnetic MC's, "Ego Trippin'" (1988)
  - Synthetic Substitution by Melvin Bliss (1973)
  - The Boss by James Brown (1973)
  - Make It Good to Yourself by James Brown (1973)
  - It's Yours by T La Rock and Jazzy Jay (1984)
    - I Like Funky Music by Uncle Louie (1979)
    - Daisy Lady by 7th Wonder (1979)
    - The Wildstyle by Time Zone (1983)
    - Good Times by Chic (1979)
    - Dirty Talk (European Connection) by Klein & M.B.O. (1982)
    - Feel Me by Blancmange (1982)
    - I Believe in Music by The Kay-Gees (1976)
  - Get Up and Dance by Freedom (1978)
  - Rock the Bells by LL Cool J (1985)
    - Flick of the Switch by AC/DC (1983)
    - Saturday Night Live From Washington D.C. Pt. 2 by Trouble Funk (1983)
    - Rocket in the Pocket (Live) by Cerrone (1978)
    - Good Times by Chic (1979)
- Rammellzee and K-Rob, "Beat Bop" (2004)
  - Canto De Ossanha by Dorothy Ashby (1969)
- Naughty by Nature, "O.P.P." (1991)
  - ABC by The Jackson 5 (1970)
  - Synthetic Substitution by Melvin Bliss (1973)
  - La Di Da Di by Doug E. Fresh and Slick Rick (1985)
    - Sukiyaki by A Taste of Honey (1980)
    - The Magic Mirror from Snow White and the Seven Dwarfs (1937)
- Raekwon feat. Ghostface Killah, Method Man, Cappadonna, "Ice Cream" (1995)
  - A Time for Love by Earl Klugh (1980)
  - Ice Cream Man by Eddie Murphy (1983)
    - Mister Softee (Jingle and Chimes) by Mister Softee (1960)
  - The Breakdown (Part II) by Rufus Thomas (1971)
  - Ice Cream Man by Method Man (1993)
  - Info: Ice Cream Man (1993) is a vocal sample.
- Too \$hort, "Freaky Tales" (1987)
  - Info: It is not a sample-based hip-hop song.
- U.T.F.O., "Roxanne, Roxanne" (1984)
  - The Big Beat by Billy Squier (1980)
  - Change the Beat (Female Version) by Beside (1982)
- Roxanne Shanté, "Roxanne's Revenge" (1984)

- U.T.F.O., “Roxanne, Roxanne” (1984)
  - The Big Beat by Billy Squier (1980)
  - Change the Beat (Female Version) by Beside (1982)

- Jermaine Dupri feat. Jay Z, “Money Ain’t a Thang” (1998)
  - Weak at the Knees by Steve Arrington (1983)
  - I Write the Songs by Barry Manilow (1975)
- Digital Underground, “The Humpty Dance”
  - Let's Play House by Parliament (1980)
    - Humpty Dump by The Vibrettes (1973)
    - Sing a Simple Song by Sly & the Family Stone (1968)
    - Theme From the Black Hole by Parliament (1979)
    - Doowutchyalike by Digital Underground (1989)
      - Flash Light by Parliament (1977)
      - I Get Lifted by KC & the Sunshine Band feat. George McCrae (1975)
      - Sexuality by Prince (1981)
      - Bounce, Rock, Skate, Roll by Vaughan Mason and Crew (1979)
      - Agony of Defeat by Parliament (1980), All Your Goodies Are Gone by Parliament (1974)
      - Keep Risin' to the Top by Doug E. Fresh (1988)
      - Atomic Dog by George Clinton (1982)
      - Good Times by Chic (1979)
      - Bite It by UTFO (1985), Westchester Lady by Bob James (1976)
      - Rescue Me by Al B. Sure! (1988)
      - I Know You Got Soul by Eric B. & Rakim (1987)
      - (Nothing Serious) Just Buggin' by Whistle (1986)
      - Ain't No Half-Steppin' by Big Daddy Kane (1988)

Info: Doowutchyalike is a lyrical sample.

- MC Shan, “The Bridge” (1986)
  - Impeach the President by The Honey Drippers (1973)
  - Scratchin' by The Magic Disco Machine (1975)
- UGK feat. Outkast, “Int’l Players Anthem (I Choose You)” (2007)
  - I Choose You by Willie Hutch (1973)
  - Choose U by Project Pat (2002)
    - I Choose You by Willie Hutch (1973)
- Biz Markie, “Just a Friend” (1989)
  - (You) Got What I Need by Freddie Scott (1968)
  - Get Out of My Life, Woman by Lee Dorsey (1966)
- Rick Ross feat. Styles P, “B.M.F. (Blowin’ Money Fast)” (2010)
  - Who U Wit? by Lil Jon and The East Side Boyz (1997)

Info: Who U Wit? is sampled as a lyrical song otherwise this song is not a sample-based hip-hop song.

- B.G. feat. Big Tymers and Hot Boys, “Bling Bling” (1999)
  - Space Is the Place by Jonzun Crew (1982)
- Souls of Mischief, “93 ’til Infinity” (1993)
  - Heather by Billy Cobham (1974)
  - The Jam by Graham Central Station (1975)
- Missy ‘Misdemeanor’ Elliott, “The Rain (Supa Dupa Fly)” (1997)
  - I Can't Stand the Rain by Ann Peebles (1973)
  - Can We by SWV feat. Missy Elliott (1997)
    - Do the Funky Chicken by Rufus Thomas (1969)
    - The Second Time Around by Shalamar (1979)
- Bone Thugs-N-Harmony, “Tha Crossroads” (1996)
  - Make Me Say It Again Girl (Part 1 & 2) by The Isley Brothers (1975)
- Brand Nubian, “Slow Down” (1990)
  - What I Am by Edie Brickell & New Bohemians (1988)
  - Kool It (Here Comes the Fuzz) by Kool & the Gang (1970)
  - Rock Me Tonight (For Old Times Sake) by Freddie Jackson (1985)
  - Never Had a Dream by Ohio Players (1971)

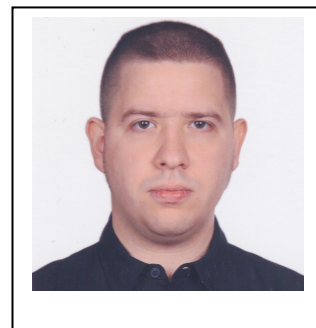
Info: What I Am and Rock Me Tonight (For Old Times Sake) does not contain samples but it is only half of the structural samples. Rock Me Tonight (For Old Times Sake) is a lyrical sample.
- Jay Z and Alicia Keys, “Empire State of Mind” (2009)
  - Love on a Two Way Street by The Moments (1969)
  - Theme From New York, New York by Frank Sinatra (1980)
- M.I.A., “Paper Planes” (2007)
  - Straight to Hell by The Clash (1982)
  - Rump Shaker (Radio Mix) by Wreckx-N-Effect feat. Teddy Riley (1992)
    - Blind Alley by The Emotions (1972)
    - Stop, Look, Listen by MC Lyte (1989)
      - Born to Lose You by Ecstasy, Passion & Pain (1974)
      - Survival of the Fittest by MC Lyte (1988)
      - Lyte Thee Mc by MC Lyte (1988)
    - The Bridge by MC Shan (1986)
      - Born to Lose You by Ecstasy, Passion & Pain (1974)
      - Survival of the Fittest by MC Lyte (1988)
      - Lyte Thee Mc by MC Lyte (1988)
    - Impeach the President by The Honey Drippers (1973)
    - Scratchin' by The Magic Disco Machine (1975)
  - Gun, Classic Pistol Cock by The Hollywood Edge Sound Effects Library (1990)

Info: All the songs produced after 1983 are lyrical samples.
- Lil Jon and the East Side Boyz feat. Ying Yang Twins, “Get Low” (2002)
  - The Clapping Song by Shirley Ellis (1965)

-To the Window to the Wall by Jam Pony Express (1995)  
Info: To the Window to the Wall is a lyrical sample.

- L'Trimm, "Cars With the Boom" (1988)  
- Kool Is Back by Funk, Inc. (1971)

## CURRICULUM VITAE



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**Ergener, K.** 2017: Identification of quantization's effects on authenticity in modern music production. MIAM Colloquium 2018 Fall Current Research in Music, January 8-9, 2018 Istanbul, Turkey.

## **OTHER PUBLICATIONS, PRESENTATIONS AND PATENTS:**

**Shirley, O.** (2016). *Bioshock: Rapture Şehri* (K. Ergener, Translator). Istanbul: İthaki Yayınları.

**Perkins, J.** (2017). *Bir Ekonomik Tetikçinin Yeni İtirafları* (K. Ergener, Translator). Istanbul: April Yayıncılık.