Samplings Before Sampling.

The Link Between DJ and Producer

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In 1986, Run-D.M.C. released its biggest hit, “Walk this Way.” What was noteworthy about the song, and what helped make it so popular, was that it incorporated elements of Aerosmith’s 1975 song of the same name. Run-D.M.C.’s version was hailed as bold and novel marriage of hip-hop and rock, two genres that at the time many people considered to be mutually exclusive. The song is even cited today as a historic moment when black and white music came together (Covach 2006: 493).

Run-D.M.C.’s use of rock—which struck most listeners as fresh and exciting at the time—was in fact old news to hip-hop DJs.1 Jay had been playing the record since the early 1980s (cf. Thigpen 2003: 115f.), and he had likely been introduced to it by older DJs. In fact, we can trace the use of the Aerosmith song in hip-hop back to Afrika Bambaataa, who had been spinning the record at parties since the mid-1970s, when it was still new (Fricke/Ahearn 2002: 49). And this was hardly an isolated incident. The first generation of hip-hop DJs had been playing the broadest array of records—funk and soul, of course, but also rock, disco, and every other genre imaginable. And they were doing this well before the advent of the first digital sampler. The records they spun were dating from the late 1960s to the mid-1970s, and became the source of the beats that a later generation of hip-hop producers would mine with great success. Moreover, the earliest hip-hop producers, and many later ones, started out as DJs, such as Dr. Dre, Just Blaze, Marley Marl, Pete Rock, DJ Premier, Prince Paul, DJ Shadow,

1 Jam Master Jay, Run-D.M.C.’s DJ, originally planned to sample the record, but producer Rick Rubin had the idea to re-record the song with Aerosmith, and hired singer Steve Perry and guitarist Joe Perry to recreate their parts in the studio. Jay, however, cuts and scratches the original record as well (cf. Thigpen 2003: 117).
and Hank Shocklee. This connection between the hip-hop DJ and the hip-hop producer, between spinning records and sampling them digitally, remains underappreciated. It is this connection that I will explore here. I will begin in the early years of hip-hop and show how the practice of DJing influenced the practice of sampling in terms of technique, source material, aesthetics, and tradition. To conclude, I will discuss the ways in which producers value the art of the DJ, but I will let them have the last word on the matter.

In order to understand how hip-hop sampling evolved, we have to go back to the early and mid-1970s, before the days of the sampler. We need to return to the founders of hip-hop, the DJs. And if we want to understand the founding of hip-hop, we need to understand the break.

Hip-hop is all about the break. And to understand the break, we can hardly do better than to begin with James Brown. Though he is best known as the “Godfather of Soul,” his music has also served as one of the crucial building blocks of hip-hop; Grandmaster Flash only slightly exaggerates when he declares, “no James Brown, no hip-hop” (Flash/Ritz 2008: 241f.). So let us consider Brown’s “Funky Drummer” (1970a). About four-and-a-half minutes in, Brown calls out to his band of nine: “I want to give the drummer some of this funky soul we got here. When I count to four, I want everyone to lay out and let the drummer go. And when I count to four, I want you to come back in.” The groove continues for thirteen bars before Brown counts off, calling out to drummer Clyde Stubblefield to “hit it!” To me, the clouds part, and a ray of pure funk shines down, a simple but slightly off-kilter call and response between the bass and snare drums, the hi-hat keeping time in sixteenth notes. Brown can only keep quiet for a few bars before he starts testifying to the funkiness of the beat. All too soon, he counts the rest of group back in, and the moment slips away. That moment—that short stretch of exposed drumming—was the break. Most typically, a break is a brief percussion solo found toward the end of a funk song, though, in fact, breaks may come from almost anywhere. The power of the break is in the way it moves us—literally; in the 1970s, the break was often called the “get-down part,” in other words, the most danceable part of a song. The break lays bare a short span of unadulterated rhythm, as the singer and other instrumentalists abruptly drop out. The effect, whether heard for the first or fiftieth time, is electrifying. As the DJ and break connoisseur Steven Stein, a.k.a. Steinski, explained, “It’s like all of a sudden the song took its clothes off” (Steinski 2008).

2 “Funky Drummer” was recorded on November 1969 and released as a seven-inch single in March 1970.
In the New York City borough of the Bronx in the early 1970s, records that featured such moments of naked percussion were especially popular at certain dance parties. The break-heavy songs of James Brown—songs like «Funky Drummer», «Get On The Good Foot» (1972), or «Give It Up Or Turn It A Loose» (1970b)—were hugely popular at these parties. And it is no coincidence that Brown is probably the most frequently sampled artist in hip-hop, appearing in countless later songs. But in 1970s New York, the DJs who played songs that took their clothes off, so to speak, incited another kind of exhibitionism among the dancers: although the breaks certainly generated «extra heat» among the couples on the floor, it was the solo dancers who made the breaks famous by bringing out their showiest moves during those percussive passages. These dancers called themselves b-boys and b-girls, their art later dubbed breakdancing by outsiders. It is crucial to understand that the hip-hop art forms of DJing and b-boying could not have flourished without each other. The DJs spun breaks for the sake of the b-boys and b-girls, and the dancers needed the DJs to keep the breaks going so they could «get down.» The roots of hip-hop sampling, it should thus be understood, ultimately lay in the relationship between DJ and dancer. Although sampling is largely regarded as a way to provide instrumental accompaniment for MCs, the looping and chopping and flipping of songs had existed well before MCing even evolved into a separate element of hip-hop.

As I mentioned, the b-boys and b-girls could not have «done their thing» without the help of the DJs. This is for the simple reason that most breaks offer insufficient opportunity for getting down: they are just too brief. However, by laying hands on vinyl, a good DJ could breathe new life into the breaks through the skilled manipulation of turntable technology. It seemed to be implicitly understood that breaks not only were enhanced when repeated, but demanded to be repeated. The natural habitat of the break is the vinyl disc, where its brevity is dictated by the temporal limits of the sound recording. On the other hand, a band playing in a live setting faces no such restriction. It would make no sense to play an eight-second solo—if it is that funky, keep playing. Thus, in extending the breaks, the hip-hop DJs of the early and mid-1970s can be seen as realizing the potential of these recorded solos.

Let us consider how these early hip-hop DJs manipulated recordings to extract and extend breaks. In doing so, we will be able to see the precursors to many of the techniques that producers have used when digitally sampling records. At first, the manipulation of breaks was fairly straight-
forward: DJs might set the needle down right at the break, repeating it as desired. This technique, most notably developed by Grand Wizard Theodore around 1974 or 1975, was known as the needle drop. Though straightforward in conception, the needle drop is hardly simple in execution. The DJ must know the exact location of the break by sight and needs a steady hand so as not to unleash the vibe-killing screech of a skidding stylus. Holding the tonearm between thumb and forefinger like a surgeon wielding a scalpel, Theodore could set the needle down anywhere on a record and return to the exact spot over and again. This meant that he could repeat not only breaks, but also single grooves with exquisite precision; moreover, he could reconfigure any song by playing phrases from different parts of the track in quick succession. »I used to hate to wait for the break to come around,« Theodore recalls.

»I used to skip to the break part with my thumb. You watch the grooves, the thickest grooves are where the break part comes in. I made sure that I picked up the needle at a certain point. I watch the record go round and round, and then bam! It comes right in. I got this down to a science. I used to astonish myself« (Grand Wizard Theodore in Fricke/Ahearn 2003: 63).

Theodore continues to astonish himself and others when he demonstrates the needle drop after all these years (Grand Wizard Theodore 2008). The needle drop never quite caught on, probably because it is so much harder than Theodore makes it look. Regardless, I would suggest that the needle drop could be considered the very first form of hip-hop sampling. It was analog, not digital, sampling, but it was sampling nonetheless.

At about the same time that Theodore was perfecting the needle drop, another South Bronx DJ was developing a different way to repeat breaks. His name was Grandmaster Flash.4 Compared to the needle drop, Flash's method for repeating breaks was more complex, requiring two copies of a record on two turntables and employing a mixer to switch quickly and seamlessly between the two discs.

Flash was deeply influenced by Kool Herc and Afrika Bambaataa, but he felt that their often jumpy and jarring style of mixing was sometimes a liability. In his 2008 autobiography he explained the problem, as he saw it, with Herc's approach:

»There was something that bothered me about his style. He didn't care about keeping the actual beat locked in tight; he didn't make the switch from one

4 Flash and Theodore knew each other well—Flash was a friend of Theodore's older brother, a DJ named Mean Gene Livingston, and Flash even lived for a time in Theodore's apartment.
song to the next in a clean cut that matched the beats, bars, and phrases of the two jams. […] If you looked at the crowd in that moment between songs, everybody fell off the beat for a few seconds. They’d get back on it again, but in those few seconds you could see the energy and the magic start to fade from the crowd« (Flash/Ritz 2008: 53-55).

Flash felt that the transition between songs was just as important as the tunes themselves, and he set out to develop a method of DJing that emphasized cohesion over fragmentation.

In the summer of 1975, Flash sequestered himself for days on end, determined to harness the power of his equipment in the quest for a seamless mix. His central insight, arrived at through much trial and error, is reducible to a simple dictum: to control the sound, you must touch the records. But this dictum violated a taboo as old as the phonograph. For many (then and now), to touch a record is to defile it. Yet Flash realized that the best way to manipulate a break was to put »your greasy fingertips on the record. […] This was a major no-no,« he points out. »You never touched the record with your fingers. […] I found a way to start the first record with my hand physically on the vinyl itself,« he explains. »The platter would turn but the music wouldn’t play because the needle wouldn’t be travelling through the groove. However, when I took my hand off the record … BAM! The music started right where I wanted it« (Flash/Ritz 2008: 76, 79). This was a technique called slip-cueing, one that had already been known to club and radio DJs.

But Flash did not stop with slip-cueing. Simply holding a record in place was not enough, because Flash also needed to know exactly where the break started and stopped. Taking a grease pencil, he drew one line from the center hole to the edge of the label to indicate the beginning of the break, and another to show where it ended. And from this, he developed what he called the »clock theory« (ibid.: 78f.), and with the label facing up, he treated the cardinal points of the record as twelve, three, six, and nine o’clock. His pencil marks were like hour hands, and he could see at a glance that a break, say, started at two o’clock and ended at ten o’clock. It is a simple and effective system, and most hip-hop DJs to this day learn how to mix using some form of the clock theory.

Flash now had the means to repeat, or loop, a break seamlessly and indefinitely by switching from one turntable to the other using the crossfader, a slider on the mixer, which sits between the turntables. While one record is playing, he manually rotates the other record (this being called »back-spinning«) until he gets to the right spot. When done well, it looks and sounds graceful and easy (cf. e.g. DJ X2K 2009b). And although it is not the most difficult DJ technique, it is not as easy as it appears. Looping, as de-
veloped and perfected by Flash and others in the mid- and late-1970s, became the standard way to extract and repeat recorded sounds for hip-hop DJs. And when samplers started to become popular in hip-hop in the late 1980s, looping became the standard way to use the technology.

But before the era of sampling, DJ techniques continued to develop, and these techniques also carried over into the sampling era. Punch-phrasing occurs when the DJ plays a quick stab of sound on one record over the sound of another record; in other words, one record is playing continuously and a second record is cut in periodically. Phasing occurs when two copies of the same record are just a fraction of a second apart—that is, out of phase—to create a distinctive whooshing sound. Doubling occurs when the DJ takes two copies of the same record and plays a sound on one—say, a snare or a kick—and then immediately plays the same sound on the other record; the effect is to double the sound, and one hears two snare hits in quick succession, instead of one. Sounds can even be tripled or quadrupled (cf. e.g. DJ X2K 2009a).

Beat juggling takes doubling to the next level: instead of simply repeating a sound, the DJ uses two records (usually of the same song) and completely reconfigures the beats to create wholly new patterns. It is essentially the same thing as what producers call «chopping a sample». Beat juggling is claimed to have been developed by DJ Steve Dee. As he explained to me in a 2007 interview, he came up with the idea—which he first called «the funk»—while hiding out in his Harlem apartment in the summer of 1987, trying to stay clear of an angry drug dealer.

«Well, to me, what was different about it was that, say, if you wanted to add another snare into the loop, you could do it, as opposed to just letting it loop, you understand? I can add three kicks, or two kicks, where they don't even exist; if there's a word that comes in, I can chop that word up, and half the word, so that it'll play in place of the snares, so I can add the word where the kick was, I can add the snare wherever the hi-hat was and you can come up with a rhythmic pattern, and it'll sound like you're remixing the record right before everybody's eyes» (DJ Steve Dee 2007).

5 «Doubling & Echoing», a brief video that shows a DJ doubling, can be seen on youtube: http://www.youtube.com/watch?v=_GzSCDKWhzl&NR=1. It can also be seen at «The Scratcher's Journal»: http://www.x2k.co.uk/beat-juggling-tutorials.

6 Steve Dee's battle routine at the 1991 DMC U.S. finals (cf. DJ Steve Dee 2006) offers a virtuosic display of beat juggling. In the first part of the routine, he reconfigures Eric B. and Rakim's 1988 song «I Know You Got Soul» (which itself samples the Jackson 5, Kool and the Gang, Bobby Byrd, The J.B.’s, and James
All of the techniques that I have mentioned directly or indirectly made their way into the work of producers and strongly shaped the sound of hip-hop for years to come. To some this might seem to be an inconsequential observation: after all, what else would one do with a sampler if not make loops and new beats? «Pretty much anything» is the answer. Musicians of all kinds have used samplers—from rock groups to avant-garde classical musicians—and the results typically do not even remotely sound like hip-hop. In fact, there was nothing about early sampling technology that necessarily led to the kind of chopping and looping that we hear in hip-hop. How one uses a technology is not simply dictated by the capabilities and limitations of the technology itself, but also by the history and aesthetics of the user or community of users. When hip-hop producers first got their hands on samplers, they did not approach the technology as if it were a blank slate: there was already more than a decade’s worth of DJ techniques upon which to draw. Moreover, the songs that they sampled were often the same ones that DJs had been spinning for years. Finally, and most broadly, we can see an aesthetic and practical continuity between DJing and sampling. Aesthetically speaking, as a group, the songs that both old-school hip-hop DJs and the first generation of sampling producers favored shared certain musical characteristics. These included a heavy kick drum and a tight snare, and rhythms that were usually anchored by a strong downbeat—sometimes known as «the one»—but included forward-leaning syncopations that seemed to propel themselves back to «the one.» And these musical preferences are all tied to a central function—to get bodies moving. This reminds us that hip-hop arose out of the relationship between DJs and dancers, and that hip-hop sampling has its roots in that relationship.

For producers, the connection between DJing and sampling is as important as it is evident and natural. I have chosen statements from four producers that represent four main points of contact between these two hip-hop practices. Hank Shocklee, who, as a member of Public Enemy’s production team, The Bomb Squad, had a hand in the creation of some of hip-hop’s best known tracks. He touches on the aesthetics of producing and DJing, and how he as a producer seeks to create a continuity between the two in his own work:

«because I'm a DJ, I want to make the DJ a part of the instrumentation. So, if you listen to all the records, a lot of the stuff that you are hearing is cut in

Brown.) It is an astonishing performance and demonstrates Steve’s point that he is essentially remixing the record in real time.
with turntables. So you might hear a bassline just being cut in instead of sampling that bassline, because we didn't want that feel. There is a feeling when something is cut in as opposed to when something is played through the sample and it's another feeling when something is played out live. I always wanted to make everybody feel the element of a DJ always being involved« (Shocklee 2005).

Shocklee uses the word »feel« several times to explain why DJing is crucial to him as a producer. As he points out, there is an important difference between inserting a sound in a mix using a sampler and inserting it using turntables. There is a distinctive quality to that sound of cutting in using turntables that he wants listeners to be able to hear. Although he does not say this explicitly, his choice of words suggests that it is also important for producers literally to feel the connection to DJing by physically handling records and turntables. In conjunction with this, I want to mention scratching as a technique shared by DJs and producers. It is the one DJ technique that many producers do not imitate through sampling, but instead use in its original form. When producers want to incorporate scratching into their beats, they often scratch records themselves or bring in a DJ to do it. This again reaffirms the continuity between DJing and producing, but it also reinforces Shocklee's point, for there is a distinctive sound and feel when scratching is brought into the mix using real turntables and a real DJ.

The second producer, Prince Paul, started his career as a DJ, too. He then went on to produce albums for Stetsasonic, De La Soul, Big Daddy Kane, and many others. His words point out the important continuity between DJs and producers in terms of the music that they share:

»People might know me as a producer for the most part. But DJing was always my first passion. I come from a DJ era and DJs play records. As a DJ I played [Billy Squier's] »Big Beat,« [and] I sampled it. I played [The Honey Drippers'] »Impeach The President« and I sampled it. A lot of us don't play instruments. But as far as hip-hop is concerned, it's based on two turntables and a microphone and that's it« (Prince Paul 2003).

The songs that he mentioned are firmly part of the DJ and producer canon. Squier's rock song »Big Beat« (1980) was being spun at parties in the Bronx by Grandmaster Flash and others, and then was later sampled on songs by dozens of artists, from Queen Latifah and Run-D.M.C. to Jay-Z and Dizzee Rascal. »Impeach the President« (1973) has been sampled even more widely, on well over a hundred songs according to the website the-breaks.com. There are many other songs that fit into this category. Consider just a few of the breaks most frequently played by DJs in the age be-
fore sampling: James Brown’s »Funky Drummer« (1970), »Apache« (1973) by The Incredible Bongo Band, and »It’s Just Begun« (1972) by the Jimmy Cas-tor Bunch. Collectively, these three breaks have been sampled on literally hundreds of songs. Clearly, there is a significant overlap between the songs that DJs used to spin, and the songs that producers later sampled. This also helps to explain an apparent anomaly in which so many producers sampled songs that were popular in many cases before they were born. They were, in fact, sampling songs that were popular among the first generation of hip-hop DJs, and those DJs then passed the songs (along with the aesthetic pri-orities) on to the later generations.

Ivan »Doc« Rodriguez started out DJing in the Hell’s Kitchen section of Manhattan in 1975 and was a party DJ for many years before he moved into the studio. As engineer and producer, he worked on dozens of important albums, including Boogie Down Productions’ Criminal Minded (1987), Eric B. & Rakim’s Paid in Full (1987), and all of EPMD’s records. He points out the con- tinuity between DJing and sampling in terms of musical knowledge and technique:

»You DJ long enough you start to learn the structure of a song. You hear it, you start to learn how a song is put together. I’ve played millions of songs in my life. By DJing I learned how to count, I learned how to distinguish different instruments, it helped me learn how to mix records. DJing really helped prep me for engineering, for programming of drum [machines] and all that. Put it this way. If I didn't DJ I maybe would not even be doing this. And even if I did it would be different. I might be synthetic, I might be bubble gum, I don't know. I know that most of my background comes from the fact that I put a needle to a record« (Rodriguez 2008).

As Rodriguez explains, for him and many producers, DJing constituted their main musical education, where they familiarized themselves with a huge range of music and learned how to disassemble and reassemble songs. Fur-thermore, the construction of authenticity via DJing becomes obvious: if he had not been a DJ, he claims, and somehow still managed to become a pro-ducer, he might have turned out to be »synthetic« or »bubblegum.« Rodri-guez and others, however, are quick to point out that it is not absolutely necessary to have been a DJ to be a producer, and even a good one.7 Still, for those producers who had been DJs, that history is tremendously impor-tant to their own work and self-worth as a producer.

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7 Cut Chemist, for example, was once asked whether he was bothered by the fact that a producer could now have a career without ever having D Jed. »Nah,« he replied. »If he makes something dope, it’s all good« (Cut Chemist 2006).
In the final quotation, DJ Premier—longtime DJ and producer, and half of the group Gang Starr—talks about the importance of tradition:

»My DJ mentality is what made me and still makes me stay hot—and stay relevant to hip-hop the way I know it. The stuff that's on the radio now, anything that's current, top ten, I know what it is, I just don't do that style. Don't have to. I do traditional style. Somebody's got to do tradition; just like country music: you have to have the Hank Williams of the world, the Patsy Clines and all that« (DJ Premier n.d.).

Premier is making explicit what Rodríguez suggested in his quote: being aware of and staying true to tradition is a central value in hip-hop. It is a way to «keep it real», to connect oneself to the handed down founders of hip-hop and all that they represented. And given that Kool Herc, Afrika Bambaata, Grandmaster Flash, and others were DJs, the clearest way for a producer to be part of that lineage is actually to be a DJ. In the course of interviewing dozens of DJs, I have been struck by how often DJs talk about the importance of knowing the history of hip-hop. If we truly want to understand hip-hop sampling in all of its richness, we need to understand its history, and its history is DJing. As one of the DJs that I interviewed explained to me, »How can you know where you are if you don't know where you've been?« (DJ Bro Rabb 2007).

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Sampling from old records can be a great way to get inspiration from generations and times past. Vinyl is also a great source of analog tone to craft, mangle, and tune. In this quick tutorial, Mad Zach shares his techniques for building a unique soundpack out of a simple vinyl sample. Sample Vinyl Records To Build A Soundpack. Mad Zach Pro Tips: Finding A Sample. A common technique for searching the entire record quickly is to move the record needle around, listening for about 5 to 10 seconds between each movement. Use your hand to spin the record backwards and forwards looking for something tasty. Recording record movement can be cool as well use the pitch fader to slow down or speed up samples before recording them.