The Science Behind the Hip Hop Kick Drum
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Of the many musical components that are analogous to what we recognize as hip hop, which one would qualify most as its 'essence'? Would it be that meticulously chopped and truncated loop, the creative molding of raw sound into something alien yet strangely familiar? Or how about the breakbeat, which has provided the foundation for countless early classics? Could it even possibly be the tempo, specifically around 94 bpm, a rate perfectly suited for any style of delivery? All valid contenders, sure, but my vote would go to the kick drum, that most critical of rhythmic ingredients in any track; more significant than a crackling snare or hand clap, shuffling hi-hat pattern, or any number of decorative rhythmic devices used to liven up the music. Without the thump of the kick drum, hip hop would be weightless and hollow, each successive bar drifting by uneventfully and repetitiously. That compelling sensation of movement would be lost if not abandoned completely, and what would remain would be something akin to bobbing one's head to a Mozart sonata. And perhaps most importantly, it would sound horrible in a car.

Before the days of sampling, when the music consisted of simple drum machines and keyboards, the kick drum occupied a prominent role in the beat, yet it couldn't be disguised that it was still a flavorless factory sample. Short of a little EQ'ing and tuning, there wasn't much more a producer could do with samples like '808Kick' or 'HardStab'. During the late '80s, as the breakbeat craze swept over hip hop, the kick drum was at its lowest in popularity, as producers could simply isolate a drum break from a record, loop it, and not have to be concerned with programming or drum placement; it was already self-contained within the break itself. Around the turn of the '90s, however, more and more beatsmiths began to exercise creativity in the studio, not just in sampling a drum loop, but sampling the individual elements of the loop into tiny microseconds of sound: a snare drag, the bell of the ride cymbal, an open hi-hat. Soon producers were accumulating entire disks of drum samples for their MPC3000 or SP-1200, guarded with the same amount of caution as their crates of vinyl. For this drop I'd like to examine a handful of producers from the mid-'90s who creatively utilized the kick drum in a unique manner, subtly shifting the direction of hip hop production through their application of this one singular element.

Before we get started, it's important to understand the basics of drum kit notation.

Figure 1: **Kick Drum Pattern 1** 0:10

This is a simple one-bar drum pattern repeated over four bars. Each hi-hat is represented by an "x" and is placed between the top two lines of the staff, while the snare is positioned beneath. (Note that for our purposes, the snare pattern will not include rests, which clutter the notation and present possible confusion with the kick drum rests.) Each kick drum note is placed between the bottom two lines of the staff, with rests accordingly.

Here's the same snare/hi-hat template with more elaborate kick drum placements:

Figure 2: **Kick Drum Pattern 2** 0:10

The circled kick drum notes are known as "pinched kicks," a technique of coupling bass drum hits, usually with a bar line between, that creates forward momentum. They are just about as vital to hip hop as the guitar is to rock music. With that out of the way, let's move on.

For all of the mystery surrounding his early productions – sampling from obscure kung fu flicks, ominous piano motifs, the haphazard addition and subtraction of sounds in the mix – **Wu-Tang**'s abbot **RZA** surprisingly adopted a less-is-more approach to his drum tracks. Rhythmically speaking, RZA's chief focus was the snare, which he would often double with another sound then alternate between the two for effect (see "Bring da Ruckus," "Wu-Tang Clan Ain't Nuthing ta F' Wit"); the kick drum was almost always secondary in importance. Strictly speaking in regard to his drum tracks, RZA introduced a refreshing simplicity to the hip hop production landscape. The sound of the kicks themselves was unlike anything heard before in hip hop, oftentimes captured from a punch to a character's stomach in some color-saturated martial-arts film. RZA displayed a remarkable economy with his kicks, only placing them where they were needed to devastating effect (see "Guillotine [Swords]" or "Triumph").

Raekwon's "Incarcerated Scarfaces," from *Only Built 4 Cuban Linx…* (1995), is a fine example of RZA's minimalist kick drum ethic. The drum track is dusty and spacious, with a tight snare and loud, open hi-hat just before the third beat. RZA places pinched kicks around the downbeat to propel the track forward, then places a kick underneath the open hi-hat accent for greater emphasis. Like all of his productions from this era, RZA likely dismissed quantization and played each note live on the drum pads, as there is a

faint yet detectable inconsistency in the timing during certain sections, but this only enhances the individuality of his sound.

"Incarcerated Scarfaces" – Raekwon 4:42 (*Only Built 4 Cuban Linx…*, RCA 1995)

Following their now-classic third release *Midnight Marauders* (1993), **A Tribe Called Quest** figurehead **Q-Tip** recruited a young studio wizard from Detroit calling himself **Jay Dee** to assist in the production. Along with group member **Ali Shaheed Muhammad**, the trio dubbed themselves **The Ummah** and went on to create one of the most recognizable and unique sounds in hip hop. Tip's infatuation with dry, cracking drums (see the entirety of *The Low End Theory* [1991], **Nas**' "One Love," or his work on **Mobb Deep**'s *The Infamous* [1995] for reference), combined with Jay Dee's lush, jazz-inflected Fender Rhodes found a wide audience, from the backpackers to the street hustlers. Unlike RZA, whose drum tracks were metronomic and rigid in adherence to the beat, The Ummah's productions were characterized by a sort of swing, a peppy bounce that wasn't so much about note placement as the actual *feel*. Their kick drum patterns were far from revolutionary but they sufficed in being exactly what the listener wanted to hear, and almost every track they helmed was dominated by pinched kicks.
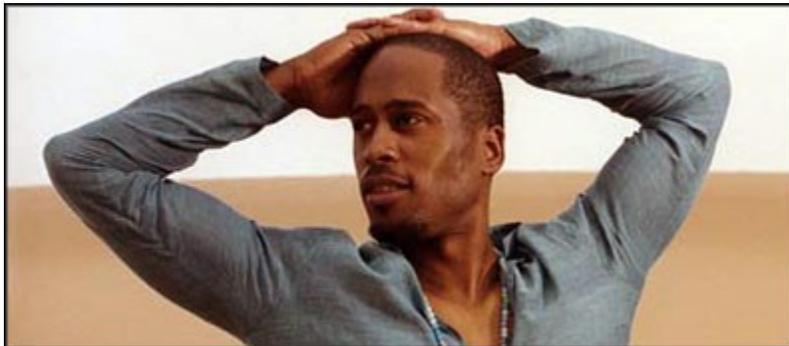
The brief "Crew," from 1996's *Beats, Rhymes & Life*, features a curious application of kick placements that stands in contrast to the trio's usual consistency. Accompanying a foreboding progression on electric piano, the four-bar drum track thickens with kick drum hits at the beginning, evens out during the middle, then increases again before repeating itself. Note the fairly standard pinched kicks in bars two and three and the more active kick patterns that bracket them.

"Crew" – A Tribe Called Quest 1:58 (*Beats, Rhymes & Life*, Jive 1996)

For **Gang Starr**'s **DJ Premier**, no other element in the mix takes greater precedent than the almighty kick. More often than not it's the loudest sound in his tracks, hitting the speakers with the force of a steel toe to the gut. For Premo, the kick drum is the breath of hip hop, the fuel for converting a drum track from stasis to a kinetic being. Similar to The Ummah and RZA in his no-frills approach, his positioning of kicks is based around efficiency: that which will make the track as direct and in-your-face as possible. Rarely are there unnecessary kicks in a Premier production, with nary a ghost note to be found. His beat for "The Militia" from *Moment of Truth* (1998) is a virtual tutorial for constructing a guaranteed banger. Over a head-nodding tempo of 92 bpm, Premier's drum track is comprised of two bars, each with slightly different kick placements. Notice his use of space between the snare hits in every even bar, as well as the pinched kicks that conclude each one.

"The Militia" – Gang Starr feat. Big Shug & Freddie Foxxx 4:48 (*Moment of Truth*, Virgin 1998)

Alternately, like many musicians of his caliber, Premier had an 'experimental phase' which occurred roughly from '94-'95. His work on *Hard to Earn* (1994), **Jeru the Damaja**'s *The Sun Rises in the East* (1994), and parts of **Group Home**'s *Livin' Proof* (1995) possesses a dissonant, almost avant-garde approach that eschewed melody for gritty texture (it's safe to say that there will never be a hip hop single as bizarre as "Come Clean" ever again). Naturally, Premier's kick drum patterns followed suit, and one needs to look no further than one of Gang Starr's own singles from this period, the hypnotic "Mass Appeal." The hits are a succession of pinched kicks, but what's most notable is the fact that there is no kick on the downbeat – practically unheard of in hip hop – but because of the way the organ loop is positioned, the ears are none the wiser.

"Mass Appeal" – Gang Starr 3:41 (*Hard to Earn*, Chrysalis 1994)

When it came to kick drum patterns of elevated complexity, few producers could hold a candle to **Pete Rock**. At times it seemed as if he was deliberately attempting to trick the listener into following a pattern, only to alternate it entirely as soon as it was grasped. Instead of building his drum tracks with the usual two- or four-bar chunks, Pete often expanded his to twelve or sixteen, with each four-bar segment containing variations on one pattern (see album opener "In the House" from *The Main Ingredient* [1994]). **InI**'s "To Each His Own," from the long-shelved *Center of Attention* (1995) is a chief example of his tendency to insert kicks almost arbitrarily into the drum track, much as if (like RZA, above) he was hitting the pads live instead of programming them. Notice the subtle variations in bars four and eight, as well as the extra pinched kicks in bar seven.

Just when the listener has latched onto this pattern, Pete introduces yet another variation at 1:19, but this time with a kick directly under a snare in the third bar, a defiant middle finger to the more conservative beatsmiths who frown on such techniques. One would be forgiven for thinking that the producer had accidentally clammed up the drum programming, until the realization occurs that 1) it's Pete Rock, for Christ's sake, and 2) the kick/snare overlap happens half a dozen more times during the remainder of the track.

"To Each His Own (Instrumental)" – Pete Rock 4:15 (*Center of Attention*, Rapster 2003)

I'm not naïve enough to assume that these producer showcases will be some sort of revelation to the hip hop cognoscenti, but if anything, perhaps they'll offer a different musical perspective to already-familiar material.

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