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Performance in EDM - A Study and Analysis of DJing and Live Performance Artists

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Artists

1. **Introduction**

Electronic Dance Music (EDM) culture today is often times associated with top

mainstream DJs and producers such as Deadmau5, Daft Punk, Calvin Harris, and David Guetta.

These are artists who have established their career around DJing and/or producing electronic

music albums or remixes and have gone on to headline world-renowned music festivals such as

Ultra Music Festival, Electric Daisy Carnival, and Coachella. The problem is that the term "DJ"

can be mistakenly used interchangeably between someone who mixes between pre-recorded

pieces of music at a venue with a set of turntables and a mixer and an artist who manipulates or

creates music or audio live using a combination of computers, hardware, and/or controllers. The

purpose of this paper is to clearly distinguish mix-DJs and live performing artists (live P.A.'s) in

the EDM genre by analyzing and discussing the various gear, techniques, and skills that both

these types of performers utilize on the stage to each create their own distinct live-performance

style. The paper will look at how DJs use recorded music, turntables and mixers in addition to

effects devices to create a unique mix of music and how live P.A.'s use a mix of both hardware,

software and sometimes traditional acoustic/electric instruments to put on a distinctive live-performance either of their own discography, or of newly improvised music.

Before discussing further, it is important to know the basic definitions and distinctions between both types of performers before examining the specific skill sets or qualities of each. The term DJ is a shorthand for Disc Jockey, which was coined in the 1940s to refer to someone who plays recorded music on the radio or at a nightclub ("Disc Jockey"). This paper will narrow its focus to the club DJ, as this is the one more oftentimes associated with performing in front of a live crowd. The club DJ commonly utilizes a core set of equipment which includes a mixer and at least two turntables or CD players that connect to the sound system of the venue where he or she is playing. The DJ will then mix between records or digitized music by utilizing a set of skills involving beatmatching, blending, harmonic mixing, and a DJ-to-crowd feedback loop (Brewster & Broughton, *Last Night a DJ Saved My Life* 10-14). Each of the preceding terms will be explained later in this paper. Outside of these fundamental tools for mixing music, the DJ can also utilize effects processors such as the Korg Kaossilator or Pioneer EFX-1000, which allow for recorded music to be manipulated to a certain degree. As this paper will explore later, the use of these effects in a DJing context may also spill into the realm of live-performance.

Performers who don't opt to use a set of turntables and a mixer in their show might instead use hardware equipment such as samplers, sequencers, virtual or analog synthesizers, drum machines, and/or MIDI (Musical Instrument Digital Interface) controllers used in conjunction with a laptop and computer software in order to produce their live shows. The term that will be utilized in this paper for non-DJ performers is live performance artists (live P.A.'s) as defined on the now defunct website livepa.org ("FAQ"). The live P.A. has the freedom to

manipulate the music beyond the limits of what turntables and a mixer can do with just .mp3s or .wav files. While the gear and software used varies from artist to artist, what distinguishes the live P.A. from the DJ is the bigger focus on live music production and live remixing. Oftentimes what a performer will do before a show is program or sequence their music into a Digital Audio Workstation (DAW) or prepare a routine using a sequencer or sampler, which they can then manipulate and improvise with live throughout the show. Despite having material prepared beforehand, the ability to control and play with each individual aspect of the music allows for each live show to be unique. This is in contrast to the mix-DJ, who is limited in their performance by the amount of tracks they can play on each turntable deck, and the amount of effects they are able to utilize at any given time as the hardware allows. However, because the mix-DJ can quickly access a wide range of music from different genres and decades, it provides them with more variety in their performance.

This leads to one of the biggest and most notable differences between the mix-DJ and live P.A., which is the material being played. An artist who DJs will often play the recorded songs of others along with their own recorded material and remixes of their material. When an artist opts to live P.A. instead, the focus is usually more on performing, remixing and creating their own material rather than that of others. Greg Freeman, who goes by the artist moniker of Quiet Entertainer, realized these differences firsthand as it affected his fans' reception of his shows. Freeman recounts on his personal blog, quietentertainer.com, how fans who had come out to see him perform live were disappointed to see him DJing instead: "One of them had brought her friends. She said, 'Well I told them how awesome you were and that you had such a crazy energetic live show. But when we saw you, you were just playing records.'" Freeman goes on to

discuss his discovery of the term "live P.A." and how he desires to grow as both a DJ and live performance artist to give his audience a great experience no matter which show they go to. As a result of the encounter with his fans Freeman opted to begin clarifying in advance to his audience whether each show was a live performance or DJ set.

2. Performance as a Mix-DJ

DJing at its core has always been about sharing recorded music to gatherings of people, and so the DJ becomes the curator of music at a social event. British DJ experts Bill Brewster and Frank Broughton state that "At its simplest level, the DJ is a presenter" (*Last Night a DJ Saved My Life* 8). The DJ is totally in charge of which song plays first, next and last, and as such has the ability to make each set unique. However, just because the DJ can play any record, doesn't mean he or she should. "A DJ without a crowd is just someone with some records," says British DJ Dave Haslam (58). In other words, Haslam believes an audience is crucial to the success and popularity of a DJ. Simultaneously, the DJ needs to be able to create an interesting mix for the crowd and not just be a human jukebox; they must be flexible with their set and must be able to adapt their music selection to the crowd they are playing to. Norman Cook, known professionally as Fatboy Slim, describes a "good" DJ as selfless and focused on audience interaction while a "bad" DJ keeps their head down and focused on what they've practiced, not considering the feelings and emotions of their audience (Brewster & Broughton, *Last Night a DJ Saved My Life* 11). English music journalist and author Simon Reynolds states that DJs refer to this as taking the listener on a "journey" (462). The way this is achieved is by the DJ adeptly

stringing together songs through technical and creative means including beatmatching, harmonic

mixing, EQing, and transitioning between songs.

Beatmatching, as the name implies, is the act of matching the tempo (BPM) of two or

more pieces of music together so that the rhythmic beats are able to lock in with each other and

therefore blend together in the mix smoothly. This is done either as a way to transition between

songs or to play songs simultaneously as a mashup when used in conjunction with harmonic

mixing. The first vinyl-based mix DJs used beatmatching techniques to mix between songs and

genres with little rhythmic disruption. While one song played to the room on one turntable, the

DJ would use their headphone cue to prepare the incoming track by matching the song's BPM to

the song currently playing. While this may seem like an easy skill for anyone to learn, the

difficulty lies in having to maintain synchronization between two tracks, either by slightly

nudging the speed or adjusting the tempo of the incoming track. The best DJs learn to "*anticipate*

the tracks going out of synch" (Brewster & Broughton, *How to DJ Right* 61).

In the digital DJing age, beatmatching is no longer a required skill. Most if not all modern

DJ software, such as *Virtual DJ*, *Serato DJ* and *Traktor Pro,* includes built-in BPM analysis on a

per-track basis as well as a "sync" feature for automatically matching the tempo between two

tracks, completely eliminating the need for a DJ to learn beatmatching. Interestingly, *Virtual DJ*

states its philosophy towards automated beatmatching on its website: "At VirtualDJ, we believe

that nobody cares if you know how to beatmatch tracks in 1 second or 1 minute, that is not what

makes you a better DJ. Your audience will never notice anyway" ("Why Use a DJ Software"). In

which case, why do some aspiring DJs still practice beatmatching? Using software to beatmatch

songs automatically comes with the caveat that the DJ trusts the software to do the work for

them. Chris Cartledge discusses this in his article on the website *Digital DJ Tips*, stating that

because technology can fail and tempo readings and transient readings can be inaccurate, it's

important to have a backup plan and have the ability to mix music without the assistance of

software. Beatmatching is a skill that can be transferred from a DJ controller, to a CDJ (a

CD-based turntable), and back to vinyl-playing turntables.

Another essential DJ technique is harmonic mixing, which is often used in conjunction

with beatmatching for a smooth transition between two songs or musical parts. Songs that are

mixed together when not in the same key often immediately create a sense of disjunction and

dissonance for the listener, which lends another reason as to why a DJ should not necessarily

play any song haphazardly. A basic knowledge of music theory also helps in using this

technique, because songs in keys that are the same, a perfect fourth apart or a perfect fifth apart

have a tendency to mix well with each other (i.e. a song in the key of B Major will mix well with

songs in the keys of E Major or F# Major). While harmonic mixing has its basic elements in

music theory itself, the actual concept was brought to the mainstream DJ world initially by Stuart

Soroka in 1986 after he had published a magazine entitled *Harmonic Keys*. In 1988 the magazine

stopped publication, and the concept was expanded upon by California DJ Mark Davis into his

own "easymix system" (also known as the "Camelot system"). Davis' system places the 24

musical keys of Western music into two sets of "keycodes," which when mixed within one

number of each other can theoretically be mixed harmonically ("History"). Davis' system has

since been utilized with DJ software tools such as *Mixed In Key*, released in 2006 for Windows

and Mac OS to automate the process of finding the key of a digital song file and labelling it for

use within software such as *Traktor* or *Serato* ("Serato DJ harmonic mixing"; "Native

Instruments Traktor harmonic mixing").

Prior to Soroka's and Davis' ideas, the way a DJ would determine if two songs were

harmonically compatible would be to simply listen to their music collection enough times to

have a sense of which songs matched well with each other. With the advent of the digital music

age and hundreds of songs being released every day, software like *Mixed In Key* takes away the

time consuming process of listening to new music just so the DJ knows it well enough to mix

with. However, one could argue that this distances the DJ from intimately knowing the music

they're playing to their audience. This idea of a DJ being familiar with their music goes

hand-in-hand with programming their set in an organic way. Brewster and Broughton are firm in

their belief that a DJ should interact with the audience's reaction to the music and think about

what the next two or three songs will be. They also strongly emphasize never pre-planning a DJ

set, as this leaves the DJ oblivious to the feelings and desires of the audience (*How to DJ Right*

132).

EQing records and transitioning between them is just as important as beatmatching and

harmonic mixing. Chris Cartledge describes EQing as a tool for "creative and technical use." For

example, attenuating the bass frequencies on the currently playing track can create a space for

the bassline of the second track and allow for a smooth transition (what Cartledge calls

"swapping basslines"). David Michael also discusses EQing; he talks about using EQ as a way to

compensate for the different mastering techniques of older records in order to mix them with

new ones.

Outside of the core tools and techniques DJs use to captivate audiences and keep them engaged on the dancefloor, effects units and loopers are also used with typical DJ equipment to give the DJ more capabilities to manipulate pre-recorded music. Most DJ controllers now typically come with effects units built-in, such as the Pioneer DJ XDJ-RR Digital DJ System which includes looping and hot-cue capabilities, and filter, reverb, and flanger effects to name a few ("XDJ-RR Overview"). Looping, as the name implies, allows the DJ to loop segments of audio. The hot-cue feature allows for a DJ to jump between multiple prepared cue-points (points where playback can start) instantly while playing a song to do a sort of live edit of the track. This, of course, then brings us back to the question of whether or not DJs are live performers, and the answer is that they are certainly capable of performing the music they play in a unique way by using modern technology. YouTube user Ellaskins demonstrates how a DJ can create a remix of a pre-recorded song just by using hot-cue and looping capabilities with a Pioneer CDJ and Pioneer DJM-900 mixer ("DJ Lesson"). Pioneer also manufactures discrete units like the DJ RMX-500 and DJ RMX-1000 that also include looping and effects features as well as sample banks, all of which allow a DJ to further manipulate and perform a pre-recorded track in various ways live and augment the features of a basic DJ setup ("Pioneer RMX-500 Overview"; "Pioneer RMX-1000 Overview").

3. EDM Producers as Live Performing Artists

Before diving into modern live performance in electronic dance music, it's worth mentioning a few of the electronic acts that were precursors and inspirations to many current EDM acts. Formed in 1968, German electronic band Kraftwerk is arguably one of the biggest

influences to contemporary electronic music, influencing the likes of Afrika Bambaataa, Cybotron and Daft Punk (Rogers). For their live performances during their Computer World tour in 1981, the four-member group utilized equipment on-stage such as Moog synthesizers, custom-built sequencers, and even Texas Instruments' language translation hardware for electronic-synthesized voices. More recently, the group has been seen utilizing iPads, MIDI controllers and drum machines in conjunction with software such as *Cubase* (Busby).

Live performance in electronic dance music has appeared as far back as the early 1980s when DJs transitioned over into the realm of production. "The DJ had proved he knew more than anyone about making dance music," Brewster and Broughton state. As this transition began to develop, DJs began incorporating more studio-gear into their mix sets to create live re-mixes of the music they played. This led to the inception of genres such as house, techno, and garage (Brewster & Broughton, *Last Night a DJ Saved My Life* 270).

Chicago house pioneer Frankie Knuckles was one DJ/producer who was incorporating rhythm machines and synthesizers into his sets in the 1980s. In a 1995 interview, he talks to Frank Broughton about how he used his first drum machine, a Roland TR-909, that he received from Detroit Techno pioneer Derrick May in 1984:

> I would use it live in the club. I would program different patterns into it throughout the week, and then use it throughout the course of a night, running it live, depending on the song and playing it underneath, or using it to segue between some things.

Other producers such as Neil Landstrumm believed having a drum machine like the TR-909 was an essential live instrument because of its ability to synchronize with other electronic instruments through MIDI or the now near-obsolete DIN: " [The TR-909] became the hub of the action…The

build quality was superb, and you could rely on them in a live setting. You just needed one – if you didn't have a 909 you weren't a techno artist" (Anniss).

Another early pioneer of live P.A. is the British duo Orbital, comprised of brothers Paul and Phil Hartnoll, who were particularly well-known for sequencing their music live and improvising each performance using electronic instruments available in the 80s and 90s. These included machines like the Roland TR-909 and TR-808 drum machines, the TB-303 synthesizer, and various E-mu samplers. In their interview with *Chaos Control Digizine*, Paul Hartnoll describes their act as a "cross between being a band and a DJ." Originally, Orbital would have their sequencers playing various parts of their music while mixing between the different drum patterns, synthesizers and basslines of each (Hartnoll). In recent years, Orbital's live setup has evolved to include Moog Slim Phatty and Moog Voyager synthesizers, Dave Smith Instruments' Tempest drum machine, a Roland TR-909 drum machine, and multiple iPads running custom MIDI controller software that connect to a Macbook Pro running Ableton Live, which functions as the master synchronization hub ("Orbital Shows Off Their Synths").

Over in France, an electronic act that was playing their shows as live P.A.'s were Parisian musicians Thomas Bangalter and Guy-Manuel de Homem-Christo, better known as Daft Punk. The duo were seen performing at various underground clubs and festivals not behind turntables, but behind a wide-range of samplers, drum machines and synthesizers. One of their best-known live appearances before they achieved mainstream success and took on their robotic personas was their first American performance at the Even Furthur [*sic*] festival in Wisconsin in 1996. This appearance predated the release of their debut album *Homework* and also their first world tour, titled Daftendirektour (Matos). Daft Punk would incorporate samples, songs and drum

patterns used in their house and synthpop albums *Homework* and *Discovery* for their live shows along with unreleased material. While information on the exact gear used in their early shows is sparse, archived photographs found online show the duo using a mixture of Linn and Roland drum machines, Roland synthesizers, and rack-mounted gear such as the Lexicon Vortex for looping audio, and Alesis Microverb for a reverb effect (Aguy). In an interview with *Remix* magazine, the duo briefly discuss their early show setup: "The sequencer was just sending out the tempos and controlling the beats and bars. On top of this structure we built all these layers of samples and various parts that we could bring in whenever we wanted to" (Gill).

Ten years after their 1997 tour, Daft Punk began their famed Alive 2006/2007 tour in April at the Coachella music festival in California. The show used video and lighting effects on and around a pyramid structure with the music being controlled and sequenced from within the pyramid by Moog Voyager synthesizers, Behringer MIDI controllers and monitors running to customized computers off-stage. While most of the show ran on a pre-programmed sequence routed to off-stage computers running Ableton Live software, Bangalter and de-Homem Christo had some degree of freedom to change the effects used on the music, making for a unique and slightly varied audio/visual experience for each show (Vontz).

Another group that has adopted a live P.A. setup for performing electronic dance music is Italian duo Marco Passarani and Valerio Del Prete, known as Tiger & Woods. The duo is known for crafting old-school funk and disco edits with some added instrumentation, incorporating vocal samples or overlayed synthesizers and looping phrases of sampled tracks to create something new. Passarani and Del Prete initially only DJ'd and used Serato software to create edits live in the booth ("Serato with Tiger & Woods"). While the two still DJ when not playing

their own music, they've shifted to doing live P.A.:, "We wanted to encapsulate a certain sound and usually when we DJ we play a wider spectrum of music" (McGlynn).

On-stage, Tiger & Woods use a Pioneer DJ DJS-1000 sampler, Akai MPC Live, Rane MP2015 mixer, and synthesizers like the Moog Mother-32 and Waldorf Blofeld all synced together ("Tiger & Woods Hybrid Set Rehearsal"). Talking with *DJ Mag*, Tiger & Woods discuss the challenges to performing live over DJing; they talk specifically about a MIDI-sync latency issue they ran into with the Akai MPC Live hardware they were using at the time. To compensate, Passarani and Del Prete had to quantize the audio on the MPC Live by time-shifting it, which fixed the sync issue, but also prevented them from using the step-sequencer on the MPC Live. " [T]roubleshooting is non stop [*sic*]" says Del Prete (McGlynn).

Joel Zimmerman, better known by his stage name Deadmau5 (pronounced "dead mouse"), is a progressive-house and electronic music artist who also utilizes live P.A. in most of his appearances. Zimmerman is best known for wearing various mouse-head helmets while performing from within a large, two-story "cube" that displays graphics on its LED panels, not too far in appearance and spectacle from the setup in Daft Punk's Alive 2006/2007 tour. Inside of the cube to one side are synthesizers from Behringer, Access and Moog. On the other side is another Moog synthesizer and a front-of-house mixer where Zimmerman mixes the show himself. Finally, at the front of the cube is a massive Microsoft Windows touch screen that runs customizable MIDI-controller software. In a video-tour of his cube, Zimmerman shows that the MIDI information from each synthesizer is run to and from a laptop running Ableton Live, and that each show has the same song order but with freedom to loop sections, manipulate

synthesizer parameters and add in effects at will ("Sam Sheffer from Mashable's backstage interview with deadmau5").

One commonality between Daft Punk and Deadmau5 is that they have a pre-programmed show for their audience that they tour with, and seldom do these acts play melodies or create new music live as groups like Kraftwerk may have done in the past. Daft Punk and Deadmau5 have their shows mostly already prepared and sequenced within Ableton Live, and it can be speculated that even the timing of their improvisation sections sometimes need to be pre-planned. Any improvisation during either show is usually limited to looping, muting, isolating and mixing stems, and effects manipulation of the running sequence. As Kristan Caryl observes, "so many live sets end up conforming to the pseudo-live norm in which artists turn up, plug in and trigger a load of pre-recorded loops in a carefully programmed sequence, often recreating whole tracks verbatim." Because Tiger & Woods run most of their show off of hardware and use little software they seem to have the most flexibility in performing however they'd like. In an interview with *MusicRadar*, the group said, "With the MPC, it means that even if all of the computers crash, we can still keep going with 50% of the music." When asked about any major on-stage technical disasters, they responded with "Sure, we've had some technical issues a couple of times, but it has always been quite fixable because we have multiple bits of kit on stage" (Barker). There's also something to be said about the act of rehearsing itself; because most of their set isn't pre-sequenced, Tiger & Woods do stress the need to rehearse (McGlynn). While acts like Deadmau5 and Daft Punk likely also rehearse, it's potentially more of a troubleshooting check rather than legitimate practice of routine since everything is pre-sequenced for the show.

4. The Authenticity of DJing and Live P.A.

Deadmau5 is also known to be one of the most vocal, controversial, and arguably honest EDM artists when it comes to discussing today's EDM and DJ culture. In 2012, Zimmerman wrote a post titled "we all hit play" on his (now deleted) Tumblr blog in which he deconstructs the illusion of what DJs or live P.A. performers do on-stage. He reveals that what he does on stage is incredibly easy to reproduce saying, "I think given about 1 hour of instruction, anyone with minimal knowledge of ableton [*sic*] and music tech in general could DO what im [*sic*] doing at a deadmau5 concert." Zimmerman even unashamedly admits that in some cases he uses little more than a laptop with Ableton Live and a single MIDI controller for some of his own sets (Wernerd). Deadmau5 called out DJ/producers David Guetta and Skrillex for receiving six-figure payouts at each gig for their performance style: "there's still button-pushers getting paid half a million. And not to say I'm not a button-pusher. I'm just pushing a lot more buttons" (*Rolling Stone*). Zimmerman finally states in the end of his blog post that any EDM producer's talent and skill, including his own, matters more in the studio than on-stage, and he doesn't want to let others fall for the misconception that the "top dj's in the world" are producing tracks instantly on-stage (Flashflooder).

Naturally, many EDM producers and people within the music community had something to say about Zimmerman's comments. Music blog *The Somber Lane* wrote in response to Deadmau5's post:

> Deadmau5 is basically stating not much more than the truth, no bulls**t: EDM is a plain studio thing, there's no live performance. Artists just come and hit play, the work has

already been done at home. The actual live event is just about the people having fun.

That's it, and that's true, so what? Have you been expecting something else all the time? Ean Golden also wrote an article discussing the Deadmau5 blog post in which he looked at both sides of the issue regarding the authenticity of EDM DJs and performers. Golden believed Deadmau5 was criticizing the fact that many "superstar" DJs are record-producers getting paid six-figure checks to play unaltered versions of their own songs and not so much criticizing DJs who beatmatch and mix records. He reminded readers that the creativity in DJing lies in aspects such as song choice and performance technique, while going on to describe how other artists like Madeon and Bassnectar make it a point to add some form of improvisation to their shows. Ultimately Golden states:

> [T]here is definitely live tweaking and arrangement remixing happening on stage, but it stops short of what some consider to be a real live performance … the production of dance music today is a deeply individual studio process not normally designed to be performed live. It is really hard to introduce live elements into dance music that are relevant and impact-full [*sic*] without adding un-necessary [*sic*] complexity or degrading the quality of the track.

Where does performance in EDM go from here? Golden believes that it's up to the performers to innovate since musical instrument companies only follow what sells. One example of this innovation is in the comeback of techno producers doing full improvisational performances using hardware, such as Juju & Jordash who did a set for Boiler Room where the act was split between live synthesizers and live drum machine sequencing (Caryl). Disclosure, a

British electronic duo formed by Howard and Guy Lawrence, is another such group that might lead the way for the future of EDM performances. Much of their show runs off samplers, synthesizers and drum machines split between the two members, with Ableton only processing the virtual instruments and MIDI information to sync their two separate on-stage workstations. The duo also integrate traditional acoustic and electric instruments such as drums and electric bass, and they even include a ten-minute improvised techno segment for each show ("Disclosure on their live set-up").

Do the differences and authenticity between DJing and live P.A. even matter in the end to the general club or festival audience? Johnvon on Dubspot.com's blog also wrote about Deadmau5's blog post and discussed the producer and DJ/performer dichotomy, concluding his thoughts with, "At its root dance music is really about the experience of hearing and feeling the music and seeing each other and dancing TOGETHER, not about watching a superstar performer." I can personally attest to this from my experience DJing for the first time at a beach party this year. Despite my friends playing their sets on sophisticated DJ controllers and using computer software like Traktor or Virtual DJ, I was using only my laptop, Ableton Live and a MIDI-controller (a setup much like what Deadmau5 admittedly uses for his smaller scale sets). The biggest concern I had before playing my show was choosing the music and order of music to play, since Ableton Live warps tracks to sync to a master BPM set by me. Already, I was breaking a DJ rule set by Brewster and Broughton: "Never ever plan a set" (*How to DJ Right* 133). I had Ableton set to launch my tracks at the next quarter-note based on the master arrangement position, so the most difficult thing to do was time the intro of each track so the beats were matched and the next song transitioned in smoothly. Admittedly, I was just pressing

"play" at the right time, EQing, and adjusting levels of tracks when necessary, and not doing anything more colorful than that. Despite this, it didn't seem to matter to most of the audience. People were enjoying themselves by cheering and dancing to the music, and not once did anyone come up to me during or after the show to criticize my "technique," or lack thereof. I was actually surprised to receive so many compliments from my friends about my set, even though, technically speaking, anyone could do what I did. This is exactly why I feel my experience is testament to Johnvon's thoughts on the EDM experience. Many people will go to an EDM show (live P.A. or DJ set) for the atmosphere and experience of it. That experience is augmented by the charisma of those performing and the light shows they may bring along with them. Jimi Fritz, author of the book *Rave Culture: An Insider's Overview,* discusses "The Tribal Experience" in regards to rave culture. He explores how humans' natural desire for belonging combined with sharing common interests with each other is the basis for strong, meaningful experiences seen in EDM culture. Fritz claims that this is a prime example of neo-tribalism, stating, "As human beings, we have a basic need to transcend our own personal perspective and goals to the point where we can experience and identify with the collective group consciousness" (169-171).

5. Conclusion

While DJing incorporates techniques like beatmatching, and harmonic mixing, most of the work can be done through software or on CDJ decks. The creativity then comes in crafting a mix based on a feedback loop between the DJ and audience and also making use of effects, EQ and creating smooth transitions. Live P.A. performers have the freedom to improvise during their elaborate performances, but sometimes they are limited by what they have prepared ahead of

time. Regardless of the differences between the two it seems as though the term DJ will almost

always be associated with electronic dance music performers, despite DJing and live P.A. being

two distinct types of acts. One of the potentially biggest contributors to this misnomer is the fact

that electronic instruments and DJ hardware increasingly blur the lines between what makes a

show live: A DJ can easily incorporate a live sequenced drum machine or sampler into their set

of pre-recorded music, while a live P.A. act may play a song "live" nearly identical to how it was

recorded because they have their studio gear or access to their original music stems on-stage via

software. As far as the authenticity of the performance goes, most audiences won't be concerned

about it, as the focus is on the music or the personality on-stage. Rarely is an audience shown a

performer's hands on the stadium's jumbotron. In a BBC interview, DJ/Producer Calvin Harris

states, "If you go to a club, there's gonna be a DJ there, so maybe you're gonna go to that club to

see that DJ mix your favorite music … In the club you want to hear a produced piece of music,

you want to hear the bass, you want to hear it as good as it can sound." In another BBC

interview, an unnamed professional DJ provides the justification that it doesn't matter what

equipment a DJ is using as long as the audience is entertained and getting their money's worth

(Cochrane). Speaking from personal experience, this is true; the end result that matters is that the

audience is enjoying themselves, though this doesn't mean live electronic dance music cannot be

innovative. Groups like Tiger & Woods, Disclosure and Juju & Jordash are making sure that

computers don't suppress the musical potential technology has for live electronic dance music.

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