

## “Performance Practices in Electronic Dance Music in the 21<sup>st</sup> Century”

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### Abstract

The topic for this research paper examines the relationship between the human body and technologies used in live electronic music performances. By electronic music, it is proposed that any musical piece that claims to use sound produced electronically, electronic instruments such as synthesizers, or pre-recorded sounds. Performance of any piece of electronic music entails that it is constructed or produced on stage in front of an audience. By illustrating the aesthetics of early electronic music performance, it is easier to define what the performance aesthetics of the twenty-first century are. These early practices have informed the vast majority of twenty-first century electronic music performances despite their limitations. The human body is discussed in relation to the history of electronic music and the performance practices of the twenty-first century. There is an increasing importance in performers being present and a critical part of the performance. Their active presence on stage gives electronic music a new meaning in terms of performance. The ontology of performers is no longer merely as a vessel for the music, but there are elements of theatre, dance and other disciplines that performers integrate into their performance.

### Keywords

Electronic Music  
Performance  
Turntablism  
Synthesizer Technology

### Introduction

The measure of a work of art is whether the person experiencing that art can sense the presence of the artist’s body. This sense comes from their mastery of their art such that it is not just their brain that conceives and realises it, but that every part of their being (muscles, arms, legs, hair and so on) is involved in its creation and realisation. The human body becomes a vessel for the art and not just the mind. When performing music then, the entire body is involved and it is not just the mind manipulating the instrument through the body. “When you give a performance that takes your body out of the mundane and into something extraordinary through art, it has profound appeal – this is the foundation of all performance” (Ostertag, 2002: 11). It is from this appeal and the rise of electronic music during the twentieth century that this research paper came around, fundamentally asking what the role of the performer is in

electronic music? Musicians involved with electronic music today are not satisfied with the state of electronic music performance and the crucial missing element, namely, the human body. Likewise, audiences have particular expectations and expect to see as well as hear a performance and playing through loudspeakers is not performance. One of the appeals of all music is the magic of performance in real time for both the musician and the audience.

Post-Webern composers sought new compositional techniques and two particular techniques were developed. The composer could create “super-controlled” music that featured precise performance instructions or go the opposite routes and allow for an element of “chance” in the music. Chance music is music where the outcome is not predetermined and the performance is undefined. The results of these two divergent styles of composition can sometimes yield similar results as can be heard in early twelve-tone works of Schoenberg and the early electronic works of Pierre Schaeffer and Pierre Henry. Electronic music offers tremendous potential in both these spheres of composition. The composition can take advantage of a computer’s ability to perform tasks with mathematical precision and can be programmed to perform tasks at random. Technology has made this possible for composers. With technology advancing so rapidly and the number of controllable parameters increasing, the composer is capable of controlling just about every factor involved in the production of a sound. So they can create new, complex sounds and create complex rhythms that a computer can play perfectly each time, hence discarding the need for a performer at all. There are innumerable possibilities in terms of time, tempo, space, rhythm, density and form. The idea of live electronic music performance can be accredited to John Cage who from 1939 wrote music for electronic instruments (including equipment like radios and records with test tones on them). Principles he first used are still being used today in Electronic Music and in Electronic Dance Music. This paper will evaluate the history of Electronic Dance Music, the history of its performance and the role of technology. There are no universally accepted performance aesthetics in Electronic Dance Music, so this paper will also investigate the problems associated with this. The main aim of this paper is to introduce the performance practices of Electronic

Dance Music and discuss what is currently happening within Electronic Music as a whole.

## EDM PERFORMANCE HISTORY

“EDM makes audible a present sonorous-motor event, more than any supposedly original past musical performance” (Dayal, G. and Ferrigno E., 2013) is how Ferreira describes EDM performance. Put simply, the performance of this music is intended to make people dance. Traditionally, a disc jockey (DJ) was in charge of EDM at a nightclub or a rave and their main performance technique involved mixing two 12-inch vinyl records on two turntables. The turntable was a DJ's main piece of equipment and was the focus of experimentation in the era of “turntablism”. The DJ constructed endless, continuous mixes for dancers. This idea of a seamless flow of music that continued all night came from disco. Their main purpose was to take the listeners and dancers on “a type of musical journey”. They would be in charge for long periods of time so their performances (their sets as they are called within the genre) would have to take this into account and feature slower, mellower tracks as well as well-known, louder and faster tracks. The dance floor was both the source and the recipient of the music the DJ played and together, the music and the dance floor allowed for transmission of one through the other. This remains the standard performance practice of EDM today. But musicians have been experimenting since the 1950s to find new techniques and methods of performance. Two broad approaches were created and this paper will be exploring those.

The general availability of tape recorders and magnetic tapes after the Second World War stimulated electronic musicians. Initially composers would just play a tape of what they had recorded but the novelty of this had worn off by the mid-1950s and so composers (like Varèse, Leuning and Ussachevsky) began devising new ways of bringing human elements into electronic music performance. Two approaches emerged in combining electronic resources with live performance in the years after Schaeffer and Henry first started experimenting with *musique concrète*, namely “mixed music” and “live electronic music”. Mixed music involved combining live instrument or vocal performers with a pre-recorded tape. This method of combining live and electronic elements embraced divergent aesthetics in that there were no limitations as to what either the performers could do or what could be recorded on tape. Live electronic music involved electronically modifying sounds produced by the performer, at the time of production, in a manner controlled by either the instrumentalist or another performer. Initially these techniques were used in a manner analogous to that of filmmakers working with film in that the music was largely “composed” through editing. By the end of the 1960s, there were a variety of techniques available (to change the spectral characteristics, spatial positioning, sound envelope shapes and echo and delay systems) for modifying the sounds produced.

This was a period of great innovation and experimentation for composers. Both these methods allowed for new, novel sounds to be created and heard. The idea of tape plus instrumentalist or vocalist was restricting to both performers and listeners as there was an element of predictability and no interplay between the two. The audience and the performer were dragged along by the tape and had to follow it rigorously. This method is still used extensively today but rather than magnetic tape, digital equipment is used. By the 1970s and 80s, micro processing was becoming more readily available and this allowed the birth of the personal computer. With the personal computer came digital technology. Digital technology was applied primarily through event processing and signal processing where music is represented digitally as streams or “note events”. These were specified primarily by parameters such as pitch, duration and dynamic level (velocity of attack). This enabled composers to create and store files of these note events through devices such as synthesizers and samplers. The computer could now become a „performer“ and “interactive composition” was possible, where performers and the computer could interact with one another.

The performer and the computer were free to improvise along a predefined set of rules placed by the composer. By the mid-1990s, minicomputers (and laptops) became cheaper and more practical as a live performance instrument. There were advances in technology and performers could influence various parameters such as dynamic and timbral constitution in real time. With the increasing processing power of computers came the ability for digital signal processing, “transformations of spectral and temporal aspects of sound quality – the major constituents of what we loosely call timbre” in real time. Both „event“ and „signal“ allowed for many possibilities in performance. Composers and performers were given new freedom. Performers could trigger and mix different sound files during the performance giving them greater control over synchronisation though a click track (a regular beat that enforces tempo and allowed for accurate cue entries).

This creates a problem for „live“ electro-acoustic music. There is no agreement as to what constitutes it because the presence of a live performer cannot always be detected on a recording nor is there always a relationship between a physical gesture and an acoustic outcome. Issues of causality are clearly raised here on various levels: performer (for example a DJ) or an audience, sounds (EDM) or movement, humans or machines. Performers and audiences are a part of EDM performance just as much as music and dancing. These are all crucial aspects of EDM and are further highlighted in performance. The debate hinges on the causal role that humans and machines play in EDM performance.

## TECHNOLOGY IN EDM

Technology as shown above plays a crucial role in the production of this music. Without technology it would not

be possible. Audiences and performers alike have a speaking familiarity with electronic music technology. Hardware has become standardised and performers display their hardware during performances, be it instruments, wires or lighting apparatus. The Roland TR-303 was the most famous bass synthesizer. Roland was, in many ways, the pioneers of EDM hardware during the 1980s. They created two of the most famous drum machines, namely, the Roland TR-808 and TR-909. These drum sounds are still prevalent today and EDM producers still sample these sounds in their music today. Amplification of sound is also crucial and this is done through a microphone, amplifier and a loudspeaker. The performer can control the amount of amplification through an electronic control generally called “volume” or “gain” and “tone” of the amplified sound can be controlled equalisation. Equalisation involves controlling the amplification of certain frequencies such as bass or treble frequencies. There are a variety of other dynamic effects that can be applied to the amplified sound such as tremolo (pulsing variations in amplification) and reverberation (an increase of *space* in which sound is heard).

Technology led to two different types of hardware devices to help create a more meaningful, musical relationship between the performer and the computer. The first followed and measured physical human action and these are commonly called “controllers”. The second of these was used to analyse the acoustic result of a performance. Controllers follow human performance actions and translate this information into suitable representations that the computer can analyse and control separate sound equipment. These interfaces were first developed in the 1960s and were then mainly used to control analogues synthesizers and processors via voltage control. The development of MIDI in 1983 led to more controllers and different types of controllers as well. The most important of this new digital generation of controllers were those based on instrument types. These devices tracked and measured various physical actions that influenced sound production such as finger position, breathe pressure and strike velocity amongst others and generally they had no acoustic output. These could come in various forms such as wind, string or percussion controllers. Other controllers could the sound result of instruments and translated the measurements into control information.

Today, performance action controllers dominate the marketplace and are relatively reliable and cheap despite certain limitations (considerably less sensitive to performance nuances such as timbral variations). The influence of tape recorders on the very nature and definition of “music” was profound. The medium had a liberating effect its early users, namely, Pierre Schaeffer, Pierre Henry, Edward Varèse and John Cage. This was the first generation of composers to use sampling and today we have digital technology that can be used in conjunction with software to record and manipulate sounds. Then came works that featured tape and a live instrument. “Tape Music” had its

roots in the film tradition and pre-scripted editing and montage rather than live performance. This made it an interesting way of presenting compositions and along with the DJ are the two main performance methods of EDM. DJs control dance floors though the use of turntables or musicians play along to a beat played by the laptop (which has replaced the tape). This approach allowed the performer to create real-time counterpoint though the use of effects such as echo. It is little surprise then of the affinity that this method has with jazz musicians as it allows for one of the most important parts of jazz to come out in its own, namely, improvisation. This affinity began in the 1960s when electronic and jazz musicians worked together, played their music to the same audiences and were both, to a certain degree, cut off from funding as corporate and institutional pressure rose in support of mainstream music. Improvisation within electronic music has been around since the early 1950s when it was explored by pioneers such as John Cage, David Tudor and Gordon Mumma. Improvisation within electronic music today has been made far easier by technology. On one piece of equipment (a computer), it is possible to control a plethora of effects ranging from ring modulations to delays. These are the parameters that the electronic musician is concerned with when improvising, namely the spontaneous modification of nonpitched aspects of sound. This is more effable with the presence of a tape, to help guide the performer though the form of the music.

## EDM AESTHETICS

In understanding what is at the core of electronic music performance practices, you need to discover and assess the principles and aesthetics of electronic music. The key to understanding music of the twentieth century and particularly electronic music, Neill argues, is rhythm. The twentieth century can be seen as “The Rhythm Century” (Neill, 2002: 3) where rhythm was the engine of transformation for twentieth century music ranging from *Le Sacre du Printemps* to jazz to programmed drum beats of drum, bass and techno. The importance of rhythm stems from the rise of minimalism in the 1960s and early 1970s, where repetitive elements were added. EDM also incorporates various elements from art music such as, experimental live performance techniques, conceptual and process oriented composition, collage performance art as well as theatre. Key to understanding the not just the aesthetics of EDM but the culture as well come from understanding the “rave” where most EDM is played. EDM can, however, in principle be listened to at any place, time or situation. The traditional roles of the performer and the audience are completely redefined at these events. The performer is just a means of social interaction and expression for the audience and is there to channel the crowd’s energy. Herein lies an aesthetic divide in EDM; audiences want to be entertained yet they are just as important to the performance as the performer. This exists in other forms of music in that the music still exists without an audience but

music is meant to be shared with others. EDM is not necessarily focused on the artistic creation of forms but rather the technological modulations of sound. That is to say, that EDM is more concerned with matters pertaining to sound and sound production than the performer sending a kind of “creative message” to their audience.

Further aesthetic questions come to mind when dealing with electronic music. If the outcomes of electronic music are accepted as music of a different order, then concerns over the human quality of this music arise. It is argued that this order of music is „inhumane” yet the composer is responsible for nearly every aspect of that composition. The composer, “fires the machines, collects the sounds, manipulates them, pushes the buttons, programs the computer, filters the sounds...thinks of forms, and rounds up the overall structure of the piece.” Linked into this misconception is the idea that it is easy to put together a piece of electronic music but there is an expert level of ability needed to understand how to compose meaningful electronic music.

## CONCLUSION

Machines are an integral part of music today, be it through use in electronic music or recordings, yet the integration of the human performers into live electronic performances has been problematic. There is no performance without a human performer. This rings true on a greater societal level in modern life, the dichotomy between humans and machines. Machines are a part of every aspect of human existence yet they are „distant” from humans. In terms of live performance in EDM in the twenty-first century, humans might not necessarily be able to *perform* with machines but humans can *play* with them.

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## Author Biography

Zimasa Gysman is an electronic musician and new media artist currently studying his Masters in Transdisciplinary New Media at the Paris College of Art. Having grown up in Grahamstown in

South Africa, he studied a Bachelor of Economics at Rhodes University before moving to Cape Town, South Africa and studying music at the University of Cape Town. It was in Cape Town that his interest in performance and electronic music came to a head. He has an interest in performance and the practices used by various performers in different fields to bring about their performances. Now based in Paris, he uses technology to find new artistic expression as a musician and visual artist.