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Significance of electronic music

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Abstract

Music is one of the most influential components in the world today. In fact, music plays significant roles in influencing human behavior and practices. Electronic music refers to all types of music played or produced through electronic devices. The twenty-first century is a century of technology whereby everything is done through the use of technology. Technology has brought about electronic devices which are used to play music in the modern world. Electronic music involves various forms and speed. Some forms of electronic music involve house, jungle, techno and trance. Jungle music involves "break" or rap that is mixed and sped up with various sounds. Techno and jungle are almost similar although techno tends to be harder and involves more whistles and horn sounds compared to jungle. However, all these forms of music are produced with the help of electronic devices. In fact, it is impossible to use trumpet to produce house music and thus electronic devices such as computer, turntables, a synthesizer or sampler are very significant in producing electronic music.

Keywords: Electronic music, human behavior, world today

Introduction

Electronic music comes in all types of forms and speeds. Some forms are Jungle, House, Trance and Techno. Trance music is my personal favorite because of the beautiful melodies and build-ups. Jungle is a form of rap or "break" that has been sped up and mixed with all types of sounds. House and Techno are mostly the same; the only difference being that Techno tends to be harder and have more horn and whistle sounds. All of these forms have to be made or created with some sort of electronic device. You can't use a trumpet to create House; you have to use something that involves wires- whether that be a computer, sampler, turntables or a synthesizer.

The Italian Futurist Manifesto was the first group to create a form of electronic music. They made noise boxes and machines that brought into existence the sounds of sirens, horns and whistles. This paved the way for the future of Techno music. It provided the tools that DJs need to incorporate sounds on top of the beat. After the invention of the noise boxes, Pierre Schaeffer and Pierre Henry, two composers, introduced "sampling", or taking clips of recorded sounds and making a song or new sound, into the world. Shortly after that, other composers started making a sophisticated type of electronic music. Without these people experimenting with noise and the use of sound, we would have never had an idea of dance music today.

Keyboards, synthesizers, samplers, turntables and even computers are the backbone of electronic music. A synthesizer is a type of keyboard that imitates the sounds of all types of instruments. When you hook up a synthesizer to a sampler or sequencer, (a machine that makes the drum beats) you can create your own tracks. Usually, DJs like to use analog synthesizers.

History of Electronic Music

The history of electronic music dates back in early twentieth century but it was until nineteen seventies when electronic music began to be famously known. The first electronic music was produced by the Italian futurist manifesto group in the twentieth century. The group developed machines and sound boxes, which has led to development of sound sirens, whistles and horns. The system paved way for the modern techno music.

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Actually, the system offered Djs with that tool they required to mix sounds to produce top music. After the development of the sound boxes, two composers, Pierre Henry and Pierre Schaeffer developed sampling; generating a new sound or song and taking sounds of recorded clips. Meanwhile, other composers began to develop sophisticated form of electronic music. This was the begging of the modern electronic music in the world today.

Significance of Electronic Music

The development of electronic devices such keyboards, samplers, synthesizers, turntables and even computers are the backbone of the modern electronic music. A synthesizer is a kind of keyboard which imitates sounds of various music instruments. Samplers or sequencer are machines which are used to produce various drum beats. The use of electronic devices in music has made music lively, interesting and even more influential. Electronic music is like therapy to the life of people. Further, electronic has added that aspect of music which lacked in analog music. Especially with the modern technological generation whereby everything is done through technology, electronic music plays significant role in entertainment sectors.

Electronic Music Origin and Effects of Music

In Bernard Willet's discovering electronic music, Bernard states, "We live in an age of technology in which machines touch every part of our lives; it is not surprising that music has also been influenced by technology." (Bernard). The sound of music has undergone massive changes since the dawn of the synthesizer. When once a band relied solely on the instruments its members could play in order to forge their thoughts into sound, they now can purchase a piece of hardware or software to add an array of instruments to their music. However, due to this technological advance many argue that talent is no longer required to be a musician and that synthesizer programmers are lazy hacks but I beg to differ.

To understand exactly what it takes to be an electronic musician and or synth programmer you must first understand electronic music and its components. Willets describes the production of sounds by means of conventional instruments, using a string bass as an example as "When a string on a string bass is made to vibrate or oscillate a sound is produced. By changing the length of the oscillating strings with the left hand, the instrument produces different pitches. (Willets). If the sound created was displayed visually, it would look like what is called a wave pattern. The electronic sound synthesizer or synth for short is a device designed to create or manipulate sounds. A synthesizer is composed of many ways to create and manipulate sounds. Depending on the synth the options range from filtering out certain frequency's and distorting sounds to pitching them higher than any know instrument can achieve. However, there is one component of design of which all the others build upon, the oscillators.

The oscillators or Ocs for short, produce sound electronically. Each oscillator produces a unique sound and waveform. Common waveforms found on most synthesizers are the square; saw tooth, sine, and triangle waveforms. These four waveforms serve as the basic building blocks for most conventional instruments. Often instruments are grouped together depending on their similarities in sound and technique. Instruments such as flutes, piccolos, and

ocarinas' fall under the category of wind instruments. Wind instruments are grouped together because they rely on air to create sound. Instruments that share the same means of sound production often share an audible similarity as well. This similarity extends to each instruments waveform. By modifying one of the four basic waveforms, a synthesizer could recreate virtually any known instrument, making it massively appealing.

Although the idea of electronic instruments and electronically produced music has been around since the 1800's it was not until around the 1940s that the concept was fully realized. Although inventions such as the musical telegraph and theremin served as a testament to the future of electronically produced music, the idea still needed to be refined. It wasn't until the invention of the Moog synthesizer, invented by Robert Moog and Don Buchla, did the synthesizer begin its musical takeover. The very first Moog synthesizers were massive and resembled machines seen in old science fiction movies before the computer age. They were extremely expensive, extremely hard to program and used mostly in film scoring and music houses. After refining his invention however, Moog compressed the massive instrument into a portable and affordable device thus making the synthesizer something anyone could afford. This innovation would eventually go on to change the face of music forever.

While most still used the synthesizer as a means to replicate existing instruments others saw the deeper potential it held. Based on simplistic waveforms that required modification to attain certain sounds, the synthesizer held limitless sonic capabilities. Bands such as the Moody Blues and Emerson, Lake and Palmer were among the first to use the synthesizer to achieve more abstract sounds. Their sonic creativity would lead others to do the same and eventually synthesized sounds began to serenade all types of music. Due to the demand to create unique sounds and music, companies wishing to cash in on this new device made many types of synthesizers.

Due to copyright, other companies had to veer away from the subtractive analog synthesis used in Moog synthesizers. They had to create their own synthesizers thus creating new ways to approach sound synthesis. Over time, a slew of ways to approach sound synthesis came about. Synthesizers based on additive synthesis, frequency modulation, granular synthesis and phase distortion to name a few began to hit music stores. While the design became seemingly more small and simplistic, the ways to manipulate and create sound became vast. Programming each of these types of synth required knowledge in the specific form of synthesis it implored.

When once a synth programmer had to simultaneously play keys, pull and plug cords into various inputs and outputs he can now do the same thing by simplistic digital means, which often only require the flicking of a switch. This advance in technology is what people claim to be the reason why talent is no longer required. Of course holding down a single key and playing an entire riff or ensemble may seem lazy in practice. People forget that that entire riff started as dull waveforms. In order to produce something like that an electronic musician must have vast knowledge in not only music, in order to achieve a good sounding riff, he must also know how to program his synthesizer.

Take for example the arpeggiated synth lines heard in most trance songs. In order to create these sounds the synth

programmer must first create the sound he wishes to arpeggiate. This process can be as simple as combining three saw tooth waveforms, pitching one in a high octave, another in a lower and the last one in an extremely almost un-audible low octave. Then filtering most of the high frequencies out, adding a low frequency osc after filtering and adjusting the way in which the sound is unleashed, sustained and how it decays, to linking the frequency's cutoff to the low frequency osc, running it through another filter and programming the sound to continually morph it's velocity to a prerecorded pattern. After that, the programmer must then use an arpeggiator, arpeggiator range from simplistic preset patterns to possessing the ability to adjust its velocity one hundred times during the course of the sounds procession. This process is known as "tweaking" the sound.

After programming his arpeggiated synth patch the electronic musician might go on to program a synth to stand in for bass sounds and then another for keyboard which all are as complicated as making an arpeggiated sound. After the electronic music has finished all the synth parts of his songs, he must then turn his focus to the percussion. Although a synthesizer is capable of producing drum sounds, the sounds created often had a synthetic sound to them that most electronic musicians did not find appealing. Most electronic musicians then would turn to another piece of equipment or software known as a drum machine.

A drum machine is a sound module that specializes in the production of percussive timbres. Drum machines followed a similar path to synthesizers, first being complicated large pieces of machinery to becoming hand held devices. Programming these are equally complicated. As drum machines involved they began to be capable to record sounds and edit them to programmer's wishes thus making things like heartbeats the kick drum of many songs.

These two pieces of hardware or software became the instruments of choice to most electronic music producers, whether they are in the form of hardware or software. Now programming a riff or drum pattern was hard enough the programmer also has to humanize his track or else it would sound too robotic. By humanizing, I mean the process in which they make the drumbeat sound as if someone was actually playing a drum kit. This implies varying velocity, panning the sounds to encompass the space drums demand, and adding digital effects, the same thing implies to the synth.

So in order to produce electronic music, the electronic musician must know all of the things I discussed as well as music theory and how instruments work. For example, you could not create an organ synth sound and play it like guitar it just would not work. So that being said I think the electronic musician is far from lazy and that, the simplification of electronic instruments only makes their capabilities greater as they do not have to worry about attaching cybernetic arms to their body in order to fiddle with more cords.

A lot of people however say that anyone could become an electronic musician. That the style can be taught and is not heart felt. That electronic musicians lack the talent of other musicians. This is what an electronic musician credits his inspiration to "I'm a very curious person, and I tend to find new obsessions every few years. I love the energy that lives on the border of human ingenuity, the edge where scientific curiosity, spiritual wonder, and technological invention meet

in explosions of beauty and truth. I love to celebrate those people whose spark ignites at that juncture. As I seek new musical inspiration, (sometimes I do run dry for periods) I look for energetic examples in other fields besides music. I often find them in the realms of physics, poetry, architecture, biology, history – anywhere actually." I guess I'm a bit insatiable, and I want to explore the best that humanity has created, and echo it as well as I can in my own work. That statement, to me, is what music is all about.

Following are the advantages of electrical or electronic instrumentation

- Different physical quantities can be converted into electrical signal by transducers.
- Electrical signal can amplified, multiplexed, filtered and measured easily.
- Electrical signal can be converted from A/D or D/A signal.

References

1. Holmes, Thomas B. *Electronic and Experimental Music: Pioneers in Technology and Composition*. London: Routledge, Print 2002.
2. MOOG. [a Film by Hans Fjellestad]. Web 2010.
3. Moog Dir. Hans Fjellestad. Perf. Robert Moog. ZU33, DVD 2004.
4. Shapiro Peter, Iara Lee. *Modulations: a History of Electronic Music: Throbbing Words on Sound*. New York: Caipirinha Productions, Print 2000.
5. YouTube – Discovering Electronic Music Part 1. YouTube – Broadcast Yourself. Web 2010.
6. Rich, Robert. Robert Rich Interview Synthesizer Music and Electronics | Join the Electronic Music Revolution NOW! Web 2010.
7. Mark Ballora. *Essentials of Music Technology*. Prentice Hall, Upper Saddle River, New Jersey 2003.
8. Barry Blesser. An interdisciplinary synthesis of reverberation viewpoints. *Journal of the Audio Engineering Society* 2001;49(10):867-903.
9. Richard Boulanger, editor. *The Csound book*. MIT Press, Cambridge, Massachusetts 2000.
10. Hal Chamberlin. *Musical applications of microprocessors*. Hayden, chelle Park, N.J. 1980.
11. John Chowning. The synthesis of complex audio spectra by means of frequency modulation. *Journal of the Audio Engineering Society* 1973;21(7):526-534.
12. John Chowning. Frequency modulation synthesis of the singing voice. In Max V. Mathews and John R. Pierce, editors, *Current Directions in Computer Music Research*, MIT Press, Cambridge 57-64p.