



Music in the 20th Century: A Reminiscence

Okafor, Onyedika Ifeanyi

Umezina, Emmanuel Chukwuemenam (Ph.D)

Onyedika Godfrey Okoye University, Enugu

Nnamdi Azikiwe University, Awka

ec.umezinwa@unizik.edu.ng

Abstract: *The Twentieth Century began on January 1, 1900 and ended on December 31, 1999. It was a period of extraordinary scientific, technological, artistic and cultural development that re-shaped human civilization. It was marked by extreme violence and progress.*

According to Pen (1992):

As the nineteenth century and its industrial revolution was powered by steam, so the twentieth century and its rapid technological growth was shaped by the harnessing of electricity. Electrical advances were most closely identified with the work of Thomas Edison (1847-1931), whose inventions such as the incandescent light bulb and electric power plants changed the society by channelling inexpensive and efficient energy into our daily lives. (pp. 235-236)

Also, the quantum mechanics which gradually arose from Max Plank's 1900 solution to a black-body radiation problem, and the theories based on relativity and quantum mechanics offered by Albert Einstein to explain photoelectric effect completely changed human "perception about the universe, and led to such monumental achievements as atomic fission and manned space flights to the moon". (Pen, 1992, p. 236)



“Important applications of quantum theory include quantum chemistry, superconducting magnets, light-emitting diodes, and the laser, the transistor and semiconductors such as the microprocessor, medical and research imaging such as magnetic resonance imaging and electron microscopy and explanations for many biological and physical phenomena”.

(https://en.m.wikipedia.org/wiki/Quantum_mechanics)

The two World Wars, '1914 - 1918' and '1939 -1945' respectively occurred during the first half of the century. During the wars, the advancement in science and technology led into production of weapons of unprecedented destructive force such as rifles, artillery, mortar, machine gun, atomic bomb which could exterminate an entire community and others. World War 1 claimed over 15 million lives and World War 11 over 60 million lives. Between the wars, dictatorship and global depression caused massive hardship.

The second half of the century saw the breakup of colonial empires, an extended cold war between the United States of America and the Soviet Union and armed conflicts around the world. At the same time rapid economic growth propelled prosperity for many. The principle of equal right gained grounds after a protracted struggle by the women, African Americans, Indians and others. Nationalism became a major political issue. (Kamien, 2008)

The rapid development in science and technology brought about an accelerated tempo in transportation and communication. Pen (1992) informed that before and during the nineteenth century, geographical boundaries such as mountains and rivers that



insulated one country from another, and cultural divisions such as language and religion which defined societal borders were crossed over at a pace limited by foot, horse, boat, and steam powered transportation but transport became faster and communication instantaneous during the twentieth century. Aircraft and automobile were twentieth century inventions. The Wright brothers, Orville and Wilbur made the first powered flight in 1903. People across the world became linked together through elaborate web of printed words, recorded sounds, television, satellite communication, facsimile transmission, cellular telephones, internet and so on. These led to dissolution of autonomy of regional isolation and brought the whole world into a global village.

It is very important to note that the invention of transistor in 1947 revolutionized the field of electronics. The first electronics produced during the twentieth century made use of thermionic triode which was invented in 1906. Thermionic triode was later replaced by transistor because triode consumed a lot of power. The transistor which amplifies the input a signal (input/controlling power) to generate a higher output power, paved way for smaller and cheaper radios, calculators, and computers, among other things.

In medical sciences advances were also made, such as the first successful open heart bypass surgery, deep-brain electrical stimulation system, laser treatment made available for optic purposes, human kidney transplant, invention of machines such as electrocardiograph machine, kidney dialysis machine, artificial pacemaker, plastic contact lens, modern respiratory and so on.



Furthermore, in biological science, agricultural science and food technology, advances made included the discovery of the structure of Deoxyribonucleic Acid (DNA), the basic material of heredity by James Watson and Francis Crick. Genetic modification of both plants and animals through the process known as **domestication**, in order to produce food and meat in greater quantity; emergence of new crops such as soybeans, sorghum, sugar beet; production of artificial/synthetic food like cornflakes, noodles, teabags; the use of machines like tractor, ploughs in farming.

Worthy of mentioning is the emergence of disciplines in Social sciences, which include psychology, anthropology, sociology, and political science; that provided new insights into humanity and the world. Psychologists in their works, particularly, achieved great feat in this manner. The invention of theory of psychoanalysis by Sigmund Freud, whereby he explored the inner motivations of man through his works titled “Studies in Hysterics” and “The interpretation of dreams” is good example of achievements made by the psychologists. These works greatly influenced the arts, literature, architecture, music and so on.

All these events that occurred in the late nineteenth century and during the twentieth century such as Franco-Prussia war of 1877, world wars 1 and 11 and their causes, technological advancement in transport and communication, electronics, and invention of psychoanalysis, in one way or the other influenced different styles of music that emerged in the twentieth century. The styles include impressionism, expressionism, neoclassicism, minimalism, surrealism, chance music, electronic music and so forth. The stylistic diversity in the music of the twentieth century was influenced by the diversity



of lifestyles that existed during the period. There were new approaches to organisation of pitches, rhythm, harmony and tone colour; some of which were ridiculed, cruelly attacked by the audience and received hostile criticisms but was later appreciated in subsequent times.

Importance of Twentieth Century to Music

The scientific and technological advancements in electronics, transportation and communication made during the twentieth century have offered great benefits to the musical field in many respects: music performance, music composition, music production, and music education and research.

Music Performance

The invention of sound amplifier/electronic sound system during the twentieth century is a very essential development that aids musical performance. This helps in projecting the sounds, be it vocal or instrumental, generated in the course of a performance to the hearing of all the audience in the performance, no matter the size of the performance venue.

Synthesizers have made it possible to create sounds of different musical instruments for use in a performance. A single individual player, who is skilful on the piano, can produce an overall sound of full orchestral music/accompaniment during a live performance, using an electronic keyboard. Orchestral music/accompaniment or full band beats can also be programmed using synthesizer and sequencer by someone who has limited skill on keyboard playing but is good in operating sound machine, to accompany live



performance of vocal music. Audio and video recordings have contributed to the improvement of our performances, in the sense that one learns to be a good performer by listening and watching good performances.

Music Composition

Invention of different music notation software such as noteworthy composer, finale, Sibelius and others has been of great aid to composers in writing music. Apart from relieving the composers from the tediousness of copying music with hand, music notation software save of time, make works neat, give room for editing and input notes can be played back over and over again. This ability of music notation software to play back sounds enables a composer to hear his work before performing it, identify mistakes and errors in his/her work easily so as to effect corrections, and to make some changes in his work where the need be so as to get the desired effect. This inventiveness results into producing near perfect works by composers.

Music Recording and Reproduction

Another landmark achievement made during the twentieth century is the technological advancement in sound recording, production and reproduction system, which developed from the nineteenth century phonograph, to gramophone-analogue system and then, to digital audio recording system. With the invention of sound recording/production, huge variety of music, both within and outside one's culture have been made available for everyone and at a very cheap rate. This makes it possible for



individuals to hear or listen to any kind of music whenever or wherever he or she desires.

In digital recording system, different voices and sound samples of different instruments are recorded in different layers; which are overdubbed and mixed to produce full and balanced orchestral or band music. The ability of digital recording to record sounds in layers and to duplicate sounds makes it possible for even a single individual to produce full band music. Another important feature of digital recording is its ability to edit recorded sounds. “It is possible to engineer perfect performances in which every human flaws and imperfection of intonation, balance, or articulation is corrected”. (Pen, 1992, p. 240)

Music Education/ Research

The relevance of technology in enhancing music education and research in order to accomplish the main goals of music education: skill and knowledge cannot be overemphasized. “Skill refers to the ability to play musical instruments, sing, create, and perform music whereas knowledge refers to understanding and comprehending information about music such as a composer’s biographical information, music theory and so forth” (www.auburn.edu/./RudolfCh1.pdf). The fact that a music teacher may not find it easy to attend to his/her students on one and one basis, technology can be of assistance to the teacher so as to effectively achieve the goal of music education.

The music notation software can offer good help to a student in learning how to notate music and to compose because of its ability to play back sounds. This enables the



student hear and to know if what he/she has written is what he/she intends. A student who is learning to play or sing a piece of music can play the CD record of the piece or download the MP3 or video of where the music was performed on internet. The use of recorded sounds assists in teaching and learning aural perception. The teacher may record different rhythmic patterns or melodic lines using sounds of different musical instruments and ask the students to identify the instruments involved and to notate what they have heard. This helps the students in identifying the tone colour of different musical instruments, pitch and notation of rhythm.

In addition, the invention of internet offers great assistance in music education and research, in the sense that most of the information one needs can be found online. Examples include history of a particular period in history, information about a particular instrument, information about music of other cultures, and so forth.

Furthermore, advancement in transportation and the use of sound recorder/motion picture camera has contributed in expanding the field of musicological research. A music researcher can now travel to a far place to research on the music of the people and with the help of sound recorder, collects their music for study, transcription and analysis. With the help of video camera, live performance of a dance can be captured during field work. The study of music of the Africans by the Western anthropologists was more effective in the first half of the twentieth century because of the advancement in transportation and video/sound.



Nationalism is another important factor that made people started becoming interested in studying, performing and promoting their own music during the twentieth century. Development of African musicology by African music scholars themselves, which started in 1920s, was spurred by the nationalist spirit, whereby they evolved theories that are more culturally relevant to the Africans.

Conclusion

The beginning of the twentieth century marked the dawn of a new world. A flood of new technologies revolutionized the entire universe; both those that can annihilate the entire human race and those that improve human living. The application of the theories of relativity and quantum physics formed the basis of almost all technological inventions that have affected all walks of life. In the midst of these advances in technology, music is not left behind. New and sophisticated musical instruments were produced. Bringing the world into a global village has made it possible for us to have access to music of other world cultures and to market our own traditional music performances globally. Although twentieth century technology has made some musicians to become lazy, especially in learning and practising their musical instruments, the benefits it has offered to music is beyond measure.



References

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