



THE IMPACT OF MODERN TECHNOLOGY ON MUSIC AND TEACHING OF MUSIC: A THEMATIC STUDY

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Abstract

This paper explores the impact of modern technology on music and teaching of music. As technology and music are interrelated concepts, technology influences both music and teaching of music. It influences music in the latter's production, recording, dissemination and Preservation. With technological developments these four aspects of music have been greatly augmented on the positive side. Introduction of music production software, advanced recording gadgets, better mass media systems and effective storage devices has worked for the betterment of music in the modern world. Radio, television and cinema too have contributed significantly to the cause of music. Similarly music teaching learning has also been helped by the technological advancement. Internet is playing a crucial role in this field providing abundant music learning opportunities. As a result of this positive interference of Technology in Music, a new academic discipline Music technology has appeared on the scene now.

Introduction

Technology has always played an important role in the development of human civilization. The Merriam-Webster dictionary defines technology as, 'the practical application of knowledge especially in a particular area' and 'a capability given by the practical application of knowledge'. Technology can be explained in simple terms as the collection of techniques, skills, methods and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation. Ursula Franklin, in her *Real World of Technology* lecture (1989), defines it as the 'practice, the way we do things around here'.

The first and simplest use of technology took place when human beings tried to convert available natural resources into simple tools to make life more comfortable. However, with the passage of time technological developments and advancements took place which significantly influenced human life and behavior, and art is no exception.

Art is natural to man and it is as old as human life. It is a representation, an imitation as Plato calls it in his *The Republic*. His disciple Aristotle later goes one step beyond and calls it 'more than imitation'. By this he means that the action of imitation also involves the skill and genius of the artist to bring into form or actualize the imitation. Music is one performing art and it too has been greatly influenced by the technological developments.

Influence of Technology on Music

The influence of technology is not just on music, it is on teaching of music as well. Technology influences music in following main aspects:

1. Production
2. Recording
3. Distribution and dissemination
4. Preservation

Technology and music have always been interrelated items. Technology adds to artistic creativity. Modern technology is getting more involved in the production of music and has significantly influenced the latter's production. In the computer age, the ontological range of music technology has greatly increased, and it may now be mechanical, electronic, software-based or indeed even purely conceptual.

Although there is not much change in the structure and style of playing of most of the traditional musical instruments in last hundred years or so but the way music is created has changed considerably. There has been introduction of electronic gadgets which create music. Piano, guitar, keyboard may be named as some early examples. In Indian context, electronic tabla, electronic *taanpura*, electronic *swarmandal* are some of the technological modifications in musical instruments. For those who find it difficult to fine tune the stringed instruments, digital tuners are available in the market. These newly introduced electronic or electric versions of existing instruments, being mechanical, have led to more correct creation of music.

There are many Music creating software programmes called *Digital Audio Workstations* available at the internet which allow the user to create and record easily music sequences. These music sequences can be arranged or co- arranged at the will of the composer and can be copied, edited and processed with audio effects, and also duplicated infinitely. Some of such music composing and editing software are *Ableton Live*, *Easy Music Composer*, *Open Song Composer*, *Apple Logic* etc.

Music created in past times was only for the moment it was being produced. After the invention of the first recording device *Phonograph* in 1860, a new era began in the world

of audio. Interestingly, the first voice recording was of a French song. This was followed by improved inventions which greatly facilitated the storage of music which now could be preserved for always. Now there are different recording devices available which record music in different forms and formats.

Technology also revolutionized the distribution and dissemination of music. Music once recorded could now be broadcast through Radio or telecast by TV. The broadcasting of music and talk via radio started at experimental level around 1905-1906, and at commercial level by 1920s.

Prior to this, in some European countries such as the United Kingdom, Hungary and France, since around 1890, there existed a system for the broadcast of music, live theatrical performances, music hall, and news etc. but this facility was restricted only to private homes not to general masses. Popularly called *Electrophone* in Britain and *Theatrophone* in France it would reach its subscribers through the conventional telephone line, and the subscribers would receive it with special headsets. In 1895, Guglielmo Marconi made the broadcast of a radio transmission possible through Morse code from a temporary station set up and changed the picture altogether.

It was on 1906 Christmas Eve at Brant Rock Massachusetts that the first radio transmission of music took place in which Reginald Fessenden played *O Holy Night* on the violin and read a few passages from the Bible. In India, *Bombay Presidency Radio Club* broadcast the first radio programme in June 1923 (Sharma, 2002a). The setting up of Indian State Broadcasting Service (ISBS) on 1 April 1930 (later All India Radio in June 1936), and Vividh Bharti on October 2, 1957 added a lot to the popularity of Indian Classical and light music. Vividh Bharti, set up to face the challenges of Radio Ceylone to the Indian radio service, concentrated on Indian, particularly Hindi film music. Cinema, another product of technology contributed significantly to the development of music and music industry in India. Indian films make an extensive use of music in the forms of songs (which are almost compulsory for every movie and are in a good number) in addition to background music. This development increased the demand for more artists and made available more openings for artists in music, making a career in this line more rewarding than ever. As most of the songs were based either on classical or on folk music, the interest of the people in both the forms got rejuvenated.

The appeal of radio was challenged by Television which provided picture in addition to sound whereas radio offered sound only. Television with its first live broadcast of a one-act play *The Queen's Messenger*, in USA on September 11, 1928 further enhanced the spread of

music. In India, television started with the experimental telecast starting in Delhi on 15 September 1959 and the regular daily transmission started in 1965 as a part of All India Radio but was separated from it as Doordarshan on 1 April 1976. By 2012, the television in India offered over 823 channels. Such a wide variety of television channels catering to the taste of a population over 100 crores has offered new platform for the spread of music and also for a career for the artists to showcase their talent. Television brings to its audience live concerts and their recordings. Doordarshan, the official Indian television channel regularly telecasts the National Programme of Indian classical music and classical dance with an aim to promote these art forms. Similarly, regional channels whether government or private show programmes involving folk music content. There are TV channels showing music category-wise: old, classic, folk, pop etc.

The availability of computer systems and the arrival of Internet in the last decades of 20th century made it possible to produce, with just one click, multiple copies of a musical performance and disseminate them digitally across the world. India is the country with third largest number of Internet users in the world. There are many music websites which provide music free of cost to the amateur listeners and professionals. The new artistes can gain exposure by uploading and sharing their musical performances on audio and video sharing websites. The advent of smartphone is set to make the access of the people to music not just easy but also round the clock and everywhere.

Technology has aided the preservation of music. In the early decades of the century, music was preserved, like other audio forms, in vinyl tapes. With the introduction of computers, floppy disks, hard drives and compact disks began to be used. Invention of USB storage devices is the next development with which one is able to preserve music pieces in digital formats of high sound quality.

Influence of Technology on Teaching of Music

Technology has made its presence felt in the teaching of music also but on the positive side. Radio and TV broadcast music related programmes which provide opportunities not just to listeners but also to the learners. Gyanvaani on All India Radio and Gyandarshan on Doordarshan provide learning based programmes on various subjects. National programmes of Music on Doordarshan reveal to the learners intricacies of the Indian classical music. Similarly, Classical music programmes on radio prove a good learning resource for the students and scholars of music.

Internet has an edge on both Radio and TV in music teaching. There are various websites dealing with the history of music. A number of journals on music – both restricted

and open access – are available online for study and research purposes. Similarly, countless books in soft form are also available on the internet.

There are websites which provide music teaching through videos. They provide information on playing of various musical instruments, even starting from the beginner's level. There are online lesson and tutorials available for the learners.

Music Technology is a new concept in the field of music. An established academic discipline now, it emerged in the mid- 1980s, at the University of York, where the Departments of Music and Electronics started a joint Masters' programme in Music Technology in 1986. It involves includes all aspects of technology related to music, particularly the use of electronic devices and computer software for playback, recording, composition, storage, analysis, and performance. It also deals with technical and scientific aspects of music such as acoustic science, programming, music psychology, music sociology and includes music industry business practices also.

Conclusion

Change is the law of nature and it always results in gradual evolution. Technology has definitely led to the evolution of musical instruments as far as their form is concerned, and it has also caused the positive changes in the production, preservation, dissemination and teaching of music. The fusion of various disciplines is a hallmark of contemporary culture. That is why modern technological developments like the internet and computers are getting more and more involved into natural arts like music. This relationship is intricate, harmonious and productive, and is definitely for the betterment of music.

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