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ACOUSTIC FOUNDATIONS OF CREATING A SOUND ENVIRONMENT IN FILM AND TELEVISION

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Abstract

In this article, we will discuss acoustics in the era of renewal in the modern film and television industry will be discussed.

Keywords: Acoustics, cinema, television, radio, computer.

Introduction

It is difficult to imagine the development of modern society, production, and culture without continuous information exchange. Such exchange is mainly carried out using means of communication. Among them, the most important and promising are radio and television. Of course, on this basis, in the development of our country, our president demanded that we act under the big 5 (five) initiatives. The first of the five initiatives, known to all of us, considered the inclusion of the Republic of Uzbekistan among the developed countries as a requirement and goal as a result of the development of culture in our country. Development of culture We consider the development of television and radio, which are mass media in our country, as a mass movement. Looking at the history of its development, the discovery of radio communication is not accidental. It is the result of numerous studies and discoveries.

The English physicist M. Faraday discovered the phenomenon of electromagnetic induction in 1831. Based on Faraday's ideas and developing them, the English

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physicist J.K. Maxwell in 1865 came to the theoretical conclusion that metal conductors carrying alternating current should emit electromagnetic waves propagating into space at the speed of light, which our scientists widely used in their experiments. In April 1895, the Russian scientist A.S. Papov was the first in the world to announce the creation of a radio communication device on May 7, 1895, which will go down in the history of science as the birthday of radio. As for the emergence of television, metric and diametric waves were launched for transmitting television signals. The satellite's orbit is elongated, elliptical, with a special period of 12 hours. The "Molniya" satellite is an extraterrestrial retranslator of the "Orbita" communication network. In addition to the communication satellite, the "Orbita" network includes a list of terrestrial transmitting stations and receiving stations located in different regions of the country.

To obtain the maximum possible energy of solar panels, these panels are automatically directed at the sun throughout the satellite's flight. At the same time, one of the satellite antennas is automatically turned to the ground. This is how the first television centers appeared. Before television appeared on Earth, our scientists created it in space and in underground waters, oceans, and seas.

Television is not just a television program. Television also participates in the exploration of space. In 1959, for the first time in human history, an image of the reverse side of the Moon was sent to Earth from a space station. As a result, weather observation stations were established. Thus, in 1962, television appeared in space, and in 1965, television began to appear on Earth. Television is increasingly used in the national economy. For example, a dispatcher, standing at their workstation, can use television cameras to observe a section of a workshop, a seaport, or a railway junction. Television devices are the only means of monitoring the condition of underground storage facilities and wells. Underwater television devices also allow observation of parts of hydraulic structures hidden

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underwater and the condition of ships. Television is used in scientific research in a wide range.

Electromagnetic waves in these ranges propagate in a straight line and are practically intercepted by any obstacles. Therefore, the antennas of television centers are installed on the upper ends of special towers or masts. The higher the tower, the further it is possible to receive television broadcasts from it. In 1965, the first communication satellite "Molniya" was used. In nuclear technology, zones of strong radiation, inaccessible to humans, are observed with the help of television. In the process of development of television technology, the science of the propagation of sound waves, based on acoustics, is now becoming widespread. For example, Using acoustics in higher and secondary specialized educational institutions, specialists in sound recording, voting, and cinematography are being trained in the workshops of the television and radio center. Directions for the development of acoustics The growth of demand for the creation of acceptable acoustics in concert and theatrical performances serves its active development. The propagation of sound waves tries to use each of its evolutionary tools at different stages of humanity. The concept of "acoustics" was first introduced to science in 1701 by the French scientist J. Souveur. To determine what acoustics is in the study of sound, sound consists of sound waves that appear during mechanical vibrations in an elastic medium. Voice, by its nature, has objective and subjective parameters.

The objective process is the propagation of sound into the environment, i.e., in water, air, and solids, while the subjective process is carried out during the propagation or reception of sound through the auditory apparatus.

Modern acoustics has penetrated many spheres of human life. Many scientific institutes of the countries of the world are engaged in its tasks. It is used in modern audiovisual equipment, architectural construction, in the creation of sound recording equipment, for example: remote controls, microphones, amplifiers, control units, sound processing systems, etc. The main direction of acoustics is

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the basis of modern science for solving the problems of development and progress of musical art. For people engaged in art, composers, sound engineers, conductors, actors, music designers, performers, artists, and other members of creative groups must know the science of acoustics. As mentioned above, it takes a long time for us to master acoustics. Pythagoras, Aristotle, Leonardo de Vinci, and Isaac Newton, who were most important in the field of acoustics, contributed significantly. All their work began with the study of the sounds of the environment, with a simple study of musical volume, the laws of physics in the field of sound, and the basic laws of modern acoustics. Let's consider a clear example of this: physical and mathematical studies (within the intervals of D. Bernoulli's law) (1700-1782) were conducted on the vibrational processes of musical instruments. He created the theory of air column resonances in cylindrical and conical pipes and showed for the first time that harmonics appear in pipes when one of the sides is closed.

At the same time, his colleague L. Euler (1707-1783) studied musical scales, the duration and dissonance of sounds; this scientist proposed the wave equation for analyzing one-dimensional, two-dimensional, and three-dimensional wave fields in air and proposed the principle of separating variables, which is a characteristic of theoretical acoustics to this day.

Today, acoustics is based on the study of sound using computer technologies. They create, synthesize, and develop sound based on instrument databases.

In Uzbekistan, acoustics began in the early 50s of the 20th century. At this time, the sound engineer V. Badushkin, who conducted a master class on sound engineering, arrives. Then the construction of acoustic experimental structures began. Thus, the first music company "Melodiya" was formed. Then, a recording studio was opened at the Center of the Ministry of Culture of Uzbekistan. In 1964, the studio became part of Melodiya, the largest company in Central Asia. It was the best and only recording studio in the region for many years. At the same time,

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it includes many previous achievements: the first stereo recordings, the transition to magnetic tapes.

Thus, as a result of the above-mentioned work, these disciplines are widely used in the development of the field of science in the training of specialists in sound production, cinematography, and dubbing.

References:

1. Meyerzon B.Y. Akusticheskiye osnovi zvukorejissuri. M. 2004.
2. Aldoshina I., Pritc R. Muzikalnaya akustika. Iskusstvo «Kompozitor», SPb., 2006.
3. Mirzayev A.A. Ovoz kuchaytirish apparaturasi va xavfsizlik texnikasi. Toshkent 2013.
4. Gushin V.N. Akusticheskiye osnovi zvukorejissuri. Toshkent 2008
5. Gushin V.N., Nasirov M.Z. Oborudovaniye studiy i sistemi zvukozapisi. Chast I, II. Toshkent 2008.
6. Kurbanbaevich, Zaretdinov Karamatdin. "DEVELOPMENT OF NATIONAL CINEMATOGRAPHY: TRADITIONS AND INNOVATIONS." *Universum: филология и искусствоведение* 1.10 (136) (2025): 64-65.
7. Заретдинов, Караматдин. "Овоз ёзиш тизими тарихи ва назарий асослари." *Oriental Art and Culture* 3.3 (2022): 285-287.
8. Тилепов, Куатбай Нукусбаевич. "КИНО—ТАРБИЯ ВОСИТАСИ." *Innovative Development in Educational Activities* 2.5 (2023): 314-317.