

IMPORTANCE OF TECHNOLOGY IN CONTEMPORARY SCULPTURE

RAJESH CHAUHAN

Research Scholar, Faculty of Fine Art, Department of Art Education, Jamia Millia Islamia, New Delhi, India.

PROF. MAMOOM NOMANI

Faculty of Fine Art, Department of Art Education, Jamia Millia Islamia, New Delhi, India

Abstract

This research paper characterizes the use of Indian traditional sculpture materials and new technologies in contemporary sculpture as well as the use of tools and machines such as 3D printers and AI along with metal technology in traditional sculpture. Today's scientific and technological era has also influenced the field of art. Due to this, along with foreign sculptors, Indian sculptors have also started using technology. Where artists took months to create the sculpture. Today, the use of technology has reduced the making of statues from months to days to minutes. In today's time, increasing use of technology in sculpture.

Key Words: Technology, Contemporary, Sculpture, 3D Printer.

INTRODUCTION

Innovative technology is the process that discovering new inventions by using new and improved ideas, techniques systems, and methods. It creates new products, services, or methods. Apart from this, it is used for discoveries in the field of method and design science. Scientists have invented many things using all these things. Which we all are using today in everyday things. It is referred to as "new technology" in systems and devices. All the systems and gadgets we use daily are referred to as technology. New applications in the arts are being made possible by this new technology.

Contemporary art is an art that is created in the present time. And reflects the present society, culture, and circumstances. It is a reflection of changing thoughts and inspirations over time. To understand contemporary sculpture, we do not have to first understand the meaning of "contemporary" to understand the meaning of contemporary in art. This word means at the same time with time' or 'moving with time'. Where the word 'modern art' was used to refer to art. Now the term 'contemporary art' is used for the same art context. The meaning of both is different but in definition, the meaning is almost the same.

The term "modern art" was used for 5 decades to define creative art after the modern art movement. Not being satisfied with this term, efforts were made to look at the modernity of every period with time and now the term contemporary art is being used for the same contexts of art.

If we talk about contemporary art, which is currently associated with a particular movement and is constantly developing, ignoring ancient traditions and conventions, new experiments are being done continuously in lines, colours, mediums, subjects, and styles. If today, we talk about today's contemporary art. Today, new styles are being created in "*contemporary art*" through science, technology, computers, machine mediums, etc. All these mediums have been used for painting, sculpture, architecture, printmaking, installation art, new media art, digital art, etc. But today if we talk about sculpture, we are seeing more use of science, technology, computers, and machines in contemporary sculpture. Today, new devices and systems have also taken place in the technology of making sculptures. Today, the use of AI machines like CNC, Robiti, and 3D printers is seen in the traditional methods of sculpture like clay, terracotta, metal casting, wood cutting, etc. At present, we can call this art style Digital sculpture and "contemporary sculpture".

Indian Contemporary Sculpture refers to the sculpture created by Indian artists during the latter part of the 20th century and the present. Contemporary Indian sculpture encompasses a wide range of issues, styles, and techniques, reflecting the diverse political, social, and cultural environment of the nation.

The field of contemporary art has witnessed a significant transition in sculpture, primarily due to technological breakthroughs. Technology is now a crucial component of the sculpture process, being used in everything from innovative digital tools and processes to classic materials like stone and metal. Along with increasing artistic expression options, this change has also put traditional ideas of form, space, and materiality to the test. Contemporary sculptors have access to a wide range of tools thanks to technology, which allows them to explore previously unthinkable new forms, materials, and techniques. Artists can explore new techniques and extend their creativity by pushing the limits of traditional sculpture using digital modelling software and 3D printing.

Digital technology enables sculptural work with previously unheard-of precision and detail. Artists may now achieve degrees of precision and accuracy that were previously difficult or impossible to achieve by hand, whether using CNC machining or laser scanning. The artist can explore more complicated geometries and sophisticated motifs because of this precision.

The process of sculpting has become more accessible to artists with a wider range of backgrounds and abilities because of technological advancements. The abundance of open-source software, inexpensive fabrication tools, and online tutorials has made it easier than ever for aspiring sculptors to study, create, and work together. Furthermore, digital platforms enable artists who are geographically isolated from one another to collaborate, promoting a worldwide flow of concepts and methods.

OBJECTIVE

- Encouraging sculptors to experiment with and use contemporary materials and methods to push the limits of customary sculptural processes and promote innovation in Indian art.
- Incorporating technical innovations into the exhibition of Indian modern sculpture to raise its profile and significance in the world of art.
- Encouraging Art Education: Including technology into curricula and programs will enable upcoming Indian sculptors to have the expertise to successfully traverse the rapidly changing art scene.

METHODOLOGY

This research paper was created through a descriptive secondary information search that involved reading publications on innovative technology in fine arts and crafts and innovative technology in contemporary sculpture that were published as research articles in academic journals and as reports from different organizations.

How a 17-foot,3D-Printed Twin of Michelangelo's David on Display in Dubai could help revive tourism in Florence, Article Writer Name Rebecca Cairns, Date of Published 21st May 2021, website link CNN Style - (<https://edition.cnn.com/style/article/miMichelangelo-David-statue-twin -Dubai-expo-SPC-intl-ink/ index.html>)

This article talks about contemporary sculpture in the technique of innovation. This article has been made with the help of new technology for the famous statue of Michelangelo David. Acrylic resin and 3D printing have been used to create Michelangelo's digital twin. Which has been celebrated at the forefront of digital innovation. Researchers from the University of Florence sculpted it for Italy's pavilion at the 2020 Expo Dubai. Which uses state-of-the-art 3D printer technology. To accomplish this task, the university's engineering department worked with Swedish technology company Hexagon. Michelangelo worked on the statue for three years to make this statue, while it took four months to make the digital twin. To create this statue, the team took thousands of digital scans of the 17-foot-tall statue. To scan David from head to toe, the team had to build a special tripod.

After the scan, the statue was divided into 14 pieces through a 3d printer and then these pieces were joined with the help of a hand. And for the final touches, glue, and marble dust were used.

Grazia Tucci, a professor of geometrics at the University of Florence, says that the name of this sculpture is a digital twin and the method used by his team presents a new way to preserve cultural heritage. said Commissioner General Glisenti of Italy at Expo 2020 Dubai. He said that the Italy pavilion evokes the past in new and imaginative ways. Suggests the future by combining digital and contemporary technology. Which lies in digital and traditional arts. This article reflects the changes taking place in modern technology in sculpture.

In this article, the new use of technology and how technology is being incorporated in the methods of contemporary sculpture, which is the specialty of this article. Along with this, traditional art and contemporary sculpture have been talked about, as well as all the mediums and methods of digital sculpture have been told. The original statue of Michelangelo should also have been described in detail in this article

This 93-year sculptor is behind the world's tallest 'Statue of Unity' In India, Article Writer Name Kriti Gupta, Date of Published Feb 25, 2019, Website link <https://www.indiatimes.com/amp/news/india/made-in-india-meet-the-93-yo-sculptor-behind-statue-of-unity-and-gandhi-idols-in-350-world-cities-354068.htm>

This article is about the Statue of Unity. This statue has been designed by Ram Vanji Sutar. This statue is the tallest in the world. Advanced modern techniques have been used to make this statue. If we talk about innovative technology in contemporary sculpture, then we get to see a good example of the Statue of Unity. To make the Statue of Unity, Ram Vanji Sutar first made a 30-foot model of it. After this design, the work of enlargement to a Chinese company. China made a 30-foot statue made by Ram Vanji Sutar for the construction of the statue, using 3D design technology from computer scanning, and a 3D design was prepared, which was modelled in thermocol by CNC machines and bronzed in China's foundry. Casting was done in which was established on 31 October in the name of Iron Man of India.

This statue is an important example of innovative techniques used in contemporary sculpture with ancient technique medium. That is why I have chosen this article. This article has been written based on the Statue of Unity. Which is one of the main features in itself. The main feature of this article is the size of the statue which has been made using new techniques. All the things related to the idol have been told but the author has made a good effort to write this article. Through this article, the statue has been made through various techniques. We get to know about it, but what was the use of machines like CNC in the statue, this topic should have been told in more detail.

3D Printing & Ancient Moulding: Gandhi's 2-Sided Bust Unveiled in South Africa, Article Writer Name Tanvi Patel, Date of Published 29 September 2018, Website link The Better India (<https://www.thebetterindia.com/160730/Gandhi-history-south-Africa-news/>)

Today the invention of technology has made our daily work completely simple. Today we can easily complete the most difficult tasks using technology. Same if we talk about the field of art, today we get to see new use of technology in contemporary art. Along with ancient mediums, techniques are also being included in contemporary art, as we can see in this article as well. Where contemporary sculpture is being manufactured with innovative technology. In this article, we get to see the use of ancient sand casting with the medium of new technology in the field of art. Gandhiji was of 3D and Ancient Moulding, a 3D design was first made using 5 -6 pictures of Gandhiji. Which was made as a model with the help of 3D printing technology. It still was not the final product. 3D printing was done to make the model in small pieces, then made in a mold for the idol using the ancient sand Dalai technique. Then the bronze statue of Gandhi's bust was made through casting. It was finally polished and a smart sound kinetic power device was installed near the bust which played Gandhiji's favourite hymns and speeches in his voice. The technique and medium of this sculpture show that the innovation of technology can be seen in the field of art, which is a good example of innovative technology in contemporary school.

The feature of this article is that this article is looking at the new effect of technology in contemporary sculpture. It is known through this article that along with the technique of 3D printing, the ancient target and environment have also been used to make the Mahatma ji statue. In this article, the writer should have explained more techniques and methods of the sculpture of Mahatma Gandhi in brief.

Experience Asia's First Fully Functional 3D Printer in Action at Mumbai Airport T2, Article Writer Name Sachin Aggarwal, Date of Published 26 May 2019 Website link Asia's First Fully Functional 3D Printer in Action at Mumbai Airport T2 (indiantechguys.com)

This article has been written based on 3D printer installation, in which the techniques of installation art made from 3D printer technology have been explained. The installation has been named Jhada. Fully 3D Printer Installation Artwork by Nuru Karim "Nudes" in collaboration with Folds Design Studios at Mumbai International Airport, Maharashtra. Jhada is an ambitious piece of art made entirely in India. The height of the chandelier is more than 8 feet and the width is more than 6 feet. It is made up of 61 large-scale individual pieces created using a service from the Julia Pro series of industrial 3D printers installed by Fektal at Folds design studios in Navi Mumbai. This type of installation sculpture creation was never explored before in the field of art in India. With Architecture and Fractal, \folds design studios took on this challenge. Post-processing 3D printed parts for the Jhada installation.

INTERVIEWS

PROF. MOHD GHUFRAN KIDWAI

Prof. M. G Kidwai is a Sculptor, Urdu Poet, Painter, and Art Educator, but he Considers himself to be a sculptor. He is a Pioneer in designing syllabi for BFA and MFA for Art Education, Department of Fine Arts, Jamia Millia Islamia, New Delhi 1986.

Prof. Gufran Kidwai has expressed his imagination and thoughts through the medium of art. He has used all the techniques and materials used in sculpture. Along with traditional materials like stone cutting, wood cutting, metal casting, fibre casting, terracotta, etc., techniques and machines like CNC, and AI printers have also been used.

Prof. Gufran Kidwai says that along with creating the artifacts of his imagination and thoughts, he has also created sculptures of monumental and personal portraits like –

- Worked as an artist on the Project of Vir Bhumi of Hon'ble Shri Late Rajiv Gandhi, Ex-Prime Minister, with PWD, New Delhi in 1994.
- Worked under the guidance of Prof. M.D. Pandaya on 16 feet tall sculpture of Sardar Patel at Rajpura and 20 feet into 6 feet, mural in Aluminium at Baroda. Cast a bronze statue (9 ft.) of Sardar Patel for the Uttar Pradesh government.
- Cast statues of Hypocrites and Hakim Ajmal Khan in bronze for educational institutes in Delhi and Hyderabad.
- Done several sculptures, portraits, and busts with government and private organizations. Completed a bronze sculpture (18 ft.) of Maharana Pratap for DDA. Completed life-size sculptures of Mirza Ghalib, Mir, and Zauq for Ghalib Academy in 2010 Completed busts of M. A. Jauhar, Mukhtar Ansari, Hakeem Ajmal Khan, M. Khwaja, Maulana Shaukat Ali for Jamia Millia Islamia 2010-12 Currently working on a sculpture of B.R. Ambedkar in Bronze for DDA.

All these statues have been made by Prof. Gufran Kidwai with the traditional techniques of metal casting, but out of all these monumental artifacts, the center of my research is the statue made by Gufran Sir B.R. Ambedkar's Baroze statue is built on a DDA project. This idol became the subject of my research because this

idol has been made using state-of-the-art techniques such as the use of AI and the use of ancient metal casting techniques. To make this, first, a small model was prepared by Prof. Gufran Kidwai and the DDD (Dream Design & Display India Pvt. Ltd.) company was given the job of enlarging these 10 feet. This company scanned this 1-foot model with a 3D scanner and its 3D model (AI) was prepared. The soft copy of this 3D model was removed by Gufran Sir. After this 3D model (AI) was made into a 10-foot model in thermocol by a CNC machine. After this thermocol statue was manufactured by Gufran Sir in his studio in POP and Lost Wax technique for metal casting. This statue was completed in 2012 by Prof Gufran Kidwai with this technique. And while the construction of the Statue of Unity was started only on 30 / OCT / 2013. It is known that the use of this technology is increasing rapidly in India.

This statue is an important example of innovative techniques used in contemporary sculpture with ancient technique medium. I have reviewed the life and artworks of Prof. Gufran Kidwai.

CONCLUSION

In conclusion, technology is essential to contemporary sculpture since it transforms artistic expression and pushes the frontiers of creative practice. Artists can now investigate previously unattainable new forms, materials, and notions by integrating digital tools. Traditional ideas of sculpture have changed because of the development of 3D printing, digital modelling, and interactive installations, which have encouraged more experimentation and creativity. Technology also makes it possible for artists to interact with urgent social issues, which promotes discussion and introspection about the nexus of culture, science, and the arts. Technology's influence on contemporary sculpture will only increase as it develops further, pushing creative expression to new heights. All of these artists' revolutionary usage of 3D patent technology points to the fact that current technology is advancing quickly today. Today, technology is being used by both international and Indian contemporary artists in a revolutionary way. This demonstrates how technology has greatly simplified our work nowadays. In the past, though, it used to take us longer to invest anything at all.

Today, this work is much easier to complete because of technological advancements. Novel approaches to the operation of these infections have been developed. In addition to parametric metal technology, 3D printing, robotic communication via CNC Society V, and AI (Artificial Intelligence) software are used.

REFERENCES

- (<https://www.thebetterindia.com/160730/gandhi-history-south-africa-news/>), 29 September 2018 Website link The Better India.
- Beginner's Guide to 3D Printing, Think3D Team, <https://www.think3d.in/landing-pages/beginners-guide-to-3d-printing.pdf>
- Bridgette Mongeon, 3D Technology in Fine Art and Craft, Focal Press Taylor & Francis Group, ISBN: 9781138844339, New York And London 2016.
- Dr. Krishna Mahawar, Naveen K. Prvrtiyaan (New Art Trends), Rajasthan Hindi Granth Academy Jaipur, ISBN 978-93-88776-57-8.
- <https://edition.cnn.com/style/article/michelangelo-david-statue-twin-dubai-expo-spc-intl-ink/index.html> 21st May 2021 Website link CNN Style.
- <https://www.indiatimes.com/amp/news/india/made-in-india-meet-the-93-yo-sculptor-behind-statue-of-unity-and-gandhi-idols-in-350-world-cities-354068.htm>, Date of Published Feb 25, 2019
- Pran Nath Mago, Contemporary Art in India A: Perspective, National Book Trust India, ISBN- 9788123734194.