Art and Technology: The Inter-relationship between Technology and Conceptual Art

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Abstract—*This paper presents a discussion of tendencies in the relationships between conceptual art, and technology. The author reexamines the inter-relationship of these tendencies as they developed in the 1960s. Taking an important step in that direction, technology has been a major player in the global impact of 21st century artists from India. Interestingly, artists used electronic technology to broadened their own ways and expresses their ideas conceptual based. Technological development giving rise as well as generate creative visual forms. "In conceptual art the idea of concept is the most important aspect of the work, the idea becomes a machine that makes the art". In this ways, both the conceptual art and technology are much more closely related. The author further exemplifies the contemporary artists work in India at the intersection of conceptual art and technology. Conceptual artists also use technology and mass media, various materials and found objects in the production of art. Therefore, using secondary data and descriptive research methodology, this paper re-examines the interrelationship between conceptual art and technology. By interpreting conceptual art and technology, the author concludes that these both tendencies share important similarities, and that is very useful and innovative sight in contemporary art scene in India.*

1. INTRODUCTION: ART AND TECHNOLOGY

The interrelationship between art and technology are rooted in history and can be analyzed only in their variability, both in their genetically and prognostically. The earliest traces of human existence in India, so far discovered, go back to the period between 400,000 and 200,00 B.C., this is suggested by the large number of primitive stone tools found in the soan valley and south India. Around 2500 BCE, the centrally planned cities of Mohenjodaro and Harappa, which boosted straight, wide roads and water supply system, show a very great advance for such an early age (Mitter, 2001). During this time, stone carving and bronze casting (cire-perdue,or lost-wax process) were used.(Asher,2003). Sharp and pointed tools were also used. The beginning of plant cultivation also appeared. Agriculture formed the main occupation of Indus valley people. The discovery of this structure strengthens the view that in a bronze age. Many shells copper and bone objects as well as steatite seal and toys were found. (Tomory,1982).so, technology had already made on appearance on the Indian art and culture. The civilization had developed technologies like the plough, stone carving, copper and bronze casting. Technology played an important part in their lives.

The concept of technology relates technical skills or abilities to a knowledge or theory informing or directing it. Emergent in early modern society, the term technology is generally used to refer to post-1800 mechanical industrial and electronic devices, system and process for instance, in phrases such as combustion engine technology, flight technology, medical technology. Yet the term could be used profitably to describe drawing, painting, and sculpture practices in the west which name from Leonardo da vinci's 16th century drawings of flying machines and anatomical studies. For a long time, however drawing and painting and even photography, an early 19th century invention have been seen as traditional, and perhaps even residual practice. In contrast, phrases such as 'new visual arts technologies' are applied to electronic and digital systems of image generation and projection, including video, and DVD, computer-simulation, and 'live' internet technologies (Harris, 2006).

In sculpture and painting, similar intimate relationship between technology and art obtains. New theories of light and vision formed the basis for the take-offs that came to be known as Impressionism, Pointillism, and Op art. As newer technologies of optics and luminescence, machines, and Kinetics, magnetism and photography, printing and color reproduction took hold; arts-technologists projected Kinetic art, mobiles and stabiles, luminescent art, self-destructive Happenings, Action painting with spray gums Avant-Gardist excursions and excesses and not merely the latter. Newer technologies were gradually absorbed and became "invisible" i.e. one ceased to notice their novelty.

In music dance and theatre, technology and art amalgamated to produce with microphones, loudspeakers, stereophonic sound systems, mixing of live and screen held action, electrically resonant musical instruments, synthetic make-up material and many others similar devices, a complete transformation of the performing arts scene. Technological advances altered the situation fundamentally in multiple directions (Purohit, 1988 p.58).

New technologies determine the shape of future art from three principle directions. First they make new products available like the photo-sensitive film, the magnetic tape and the silicon-chip. Secondly they transform the economy. Thirdly they create a new ideological climate. Just as research effort must distinguished five levels of abstraction, viz., science, technology, engineering, manufacturing, and marketing, similarly artistic endeavour must differentiate between theory and expression, experiment, feedback and re-projection.

The" industrial revolution" gave birth to new entirely new technologies based upon photography, motion picture, radio, television etc. similarly, Indian freedom and socialist revolution are bound to create an immense number of new technologies and new arts based upon them. In sculpture magnetic, electric and electronic forces will create new material configurations. Laser painting and programmed drawings are already on the cards (Purohit, 1988 p.65-66). The technology form creates another complication. Art becomes pure technology; architecture becomes merely organization of masses, volumes and shapes; painting becomes a two dimensional code; and music, a total abstraction. Artists use technology to create art that is expressive of their life, of their sorrows and joys, of their frustration and triumphs, of their pains and pleasures, and of their thoughts and emotions (Purohit, 1988 p.61-62).

2. REVIEW OF LITERATURE

1. **Lucas (1993)** suggests the new concepts in 20th century and gives also emphasis commonalities between arts, science and humanities. The author also point to the emergence of a new philosophy of nature with some promising political, sociological and technological implications.
2. **Kagan (1994)** emphasis on discussion of tendencies in the relationship between art, science and technology. However, in the 20th century, philosophic consciousness has often developed in the opposite direction in an attempt to close the gaps between art, science and technology. The author also analyzed the art forms based on new technologies such as photography, cinema and television; and finally, experiments in kinetic art, video art and computer graphics.
3. **Ward (1997)** has pointed out that some relations between conceptual and performance art. The author describe that in the late 1960s and early 1970s there was considerable overlap between these categories and some performance art may be seen to have challenged some of the limitations of conceptual art.
4. **Shanken (2002)** emphasis and reexamines the inter-relationship of art and technology in conceptual art. The author has drawn rigid categorical distinction between conceptual art and art-and-technology. However, challenges the disciplinary boundaries that obscure significant parallels between idea and art. Art and technology has focused its inquiry on the materials or concepts of technology, which artists have incorporated in their work.
5. **Tierney (2007)** deals with the recent advances in digital technology and communication and conceptual art. The author examines the conceptual artists work based on open-ended systems and indeterminacy. The author also exemplified relationship between materiality and abstraction as well as new media's reformulation of architectural design processes.
6. **Small (2009)** emphasis the votive structures of conceptual art. The author further describes that photographs and text denote a key work of performance-based conceptual art. The author also shows the works of performance-based conceptual art that attributed the document, as in the ex-voto, the significance of the body's transformation. In this structural principle of doubt that provides the most surprising entry into the homologies between ex-votos and works of conceptual art.
7. **Vazen and Heyer (1974)** explore the possibility that the activity of 'conceptual art'. The authors further conclude that, conceptual art is concerned with artistic ideas or concepts rather than with media and technique.

3. DATA AND METHODOLOGY

In this paper the author used secondary data. Various sources of data e.g. books, journals, research papers, have been used. The author use descriptive research methodology to bring into consideration the interrelationship between conceptual art and technology.

4. OBJECTIVE OF THE STUDY

1) The first objective of this study is to explore the art and technologies and their relationship with conceptual art as well as the developments in Indian art consequently.

2) The author further exemplifies the contemporary artists work in India at the intersection of conceptual art and technology.

3) By interpreting conceptual art and technology, the author concludes that these both tendencies share important similarities, and that is very useful and innovative sight in contemporary art scene in India.

5. INCEPTION OF CONCEPTUAL ART

In conceptual art, the idea or concept behind the work is as important as the work itself. Marcel Duchamp made the first example of conceptual art before world war I, but it only became recognized as a behind distinct art form in the 1960s by the American anti-art activist Henry Flynt to describe his performance art. The term was extended to "conceptual art" by the American artist Sol Lewitt in his 1967 article "Paragraphs on conceptual art" for Art forum magazine. This article recognized that a generation of artist was creating a new form of art revolutionized the way we appreciate art, to

conceptual artists, a work of art was primarily for intellectual-not aesthetic-stimulation and was no longer and beautiful, hand crafted object. It did not have to take the traditional form of paintings or sculpture, but might be a photograph, a film, or an installation. It could be made from found objects. Some conceptual artists, such as joseph Beuys, created performance art to make statements about the pain of human existence or man's relationship with nature. The pioneer of conceptual art was the French artist Marcel Duchamp. In 1913 he began exhibiting his readymades, industrially manufactured objects that he had decide were works of art (Dixon, 2008).

6. THE INTERRELATIONSHIP BETWEEN TECHNOLOGY AND CONCEPTUAL ART

However, in the 20th century, philosophic consciousness has often developed in the opposite direction in an attempt to close the gaps between art and, science and technology since their relationship provide a sound foundation for this. A number of factors led to a reversal of classic aesthetic views on the relationship between art and technology-was first made in Kant's aesthetics (Kagan, 1994). "The Critique of Aesthetic Judgment" has been as defining the principles behind the idea of art for art's sake and even of concept-based art, whose theorists, like clement Greenberg in his later years, often invoked Kant. The idea of universally of aesthetic judgment was also invoked (with some intellectual sleight of hand) in that period by Joseph Beuys, to claim that 'every human being is an artist' (Newall & Pooke, 2012).

Lucy Lippard, wrote about "conceptual Art, for me, means work in which the idea is paramount and the material form is secondary, lightweight, ephemeral, cheap, unpretentious and or "dematerialized". Sol Lewitt distinguished between conceptual art (e.g. his own work, in which the material forms were often conventional although generated by a paramount idea). Conceptual artists, perhaps more concerned with intellectual distinctions in representations and relationships than those who rely on the object as vehicle/receptacle, have offered posterity a particularly tangled account (Lippard, 1997). Regardless of these points of intersection and the fact that conceptual art emerged during a moment of intensive artistic experimentation with technology, few scholars have explored the relationship between technology and conceptual art. Investigation by conceptual artists into networks of signification and structures of knowledge (which enable art to have meaning) have frequently employed text as a strategic device to examine the interstic between visual and verbal languages as semiotic systems. In this regard conceptual art is a meta-critical and self-reflexive art process. It is engaged in theorizing the possibilities of signification in art's multiple contexts. In interrogating the relationship between ideas and art, conceptual art de-emphasizes the value traditionally accorded to the materiality of art objects (Shanken, 2002). Technology today is not only a source for products and wealth; it is also a fundamental source of philosophical understanding as well as generator of creative visual forms. There is genuine and fundamental beliefs in the limitless possibilities if technology and the ability to shape its products within acceptable and pleasing aesthetics. There is general live of evolution from realism through a modified naturalism to abstraction and non-objectivity. There is a break with the older traditions and they have cast off all the shackles romanticism, eclecticism, and formlessness. There is a forthright direction of approach and an effort to get to the fundamentals. This has resulted in clear, precise forms which bear direct and indirect relation to science and technology. The contemporary movements in arts, indeed has broadened the scope of the artist and provided him a wider outlook (Mago, 2000).

7. CONTEMPORARY ARTISTS IN INDIA: IN CONTEXT OF THEIR WORK RELATIONSHIP WITH TECHNOLOGY & CONCEPTUAL ART

By the 1980, the focus of art had shifted to conveying cultural identity. Gender studies ethnicity, cast and race, religion, fragmentation caused by migration from village to urban centers, mass popularization of the performing arts, all had become critical issues. Contemporary artist freely use technological tool and materials in their works, facilitating artistic dialogue and exchange of ideas views and expression. The artists emerging during the 90s also responded to changed condition within the country ushered in by globalization. They were able to access to a greater range variety of mediums with the use of technology. Artists response have frequently been issue-based, and developments such as installation art, video, digital photography have broadened the field of artistic expression. Art is now breaking all previously laid out barriers and has diversified into a multitude of media such as installation art, conceptual art, and the new media of art (Sinha, 2009). Great changes were simultaneously taking place throughout the world due to the advent of the machine age and the new outlook created by modern science and technology. Not surprisingly these revolutionary changes had a manifold impact in India. In 1922, Husain created highly innovative installation, Theatre of Absurd" perception of violence and its aftermath presented at the Shridharani Gallery, New Delhi. Other artists who have been contributing towards creative installation and conceptual art include Amar Nath Sehgal, Ved Nayar, Vivan Sundaram, Gogi Saroj Pal,and Ratnabali Kant. Vivan Sundaram and Ved Nayar are perhaps, the most consistent practitioners of this art form (Mago, 200, p-126). Such theatrical art or conceptual art firmly lives only in reproduction or photographic documentation; its chief one being its concept.(Mago, 2000. p-127)

Joseph Kousuth and the group "ART AND LANGUAGE" believed that modern art's practices had reached an end by c.1966. That is, the conceptualists concluded that the innovative formal development of particular art forms, such as painting and sculpture. Kousuth, titled (Art as idea as idea) universal (1967) all directly rejected modernism's orthodox media, conventions, and expressive devices. In that sense "conceptual art" have been interpreted as indebted to the

"readymades" fabricated by Marcel Duchamp in the early years of the 20th century. using and combining a variety of new representational technologies such as photographs, documents, charts, maps, films and video. Artists have developed a visual language that is both abstract and figurative. It is premised on Indian and other philosophical sources reflecting conceptual concerns (Harris, 2006). Taking an important step in that direction, technology has been a major player in the global impact of 21st century artists from India. Interestingly, artists used electronic technology to broadened their own ways and expresses their ideas conceptual based. This change is developed ten years later, with the inception of video art in India. Around 1990s Nalini Malani and Vivan Sundaram, broke out of the painting frame and started to present their ideas through the medium of installations with all kind of materials including video, and photographs,and more (Seid, 2007).

During the mid 1990s the Indian art scene was much exercised by the process of making from painting to new technology and conceptual art. In this context, Nalini Malani, was regarded as the test case of a leading avant-garde artist who had given up painting in flavour of new media, across a spectrum of painting, video and video performance. Although Malani's extension of her painterly practice into new media is seen to begin with the video documentation of "City of Desires" (1992). She uses technology, then as a means of retrieving painterliness by other means; not as a counter to the painters impulses in media beyond the painted surfaces.

In 1993 Vivan Sundaram (b.1943), whose early practice had been dominated by painting made (memorial) as powerful response through the communal riots between Hindus and Muslims. As one of the first example of installation art in India (Memorial). That's Sundaram made in 1991, with used engine oil and charcoal, to protest the gulf war. By using oil, the very material the gulf war fought over, he connected the medium into a metaphor, reinforcing both the topicality and contemporaneity of his forms (Sinha, 2009). In this context the artist use technical materials and reflecting conceptual concerns.

Lewitt, Sol, influential essay "Paragraphs on Conceptual Art"(1967): further exemplifies the complications and conflicts at the intersection of conceptual art and technology. In the second paragraph he described conceptual art is a quasi-mechanical process: "In conceptual art the idea of concept is the most important aspect of the work…the idea becomes a machine that makes the art" (Lippard, 1997). In this ways, both the conceptual art and technology are much more closely related. Conceptual artist Sudarshan Shetty (b.1961) also uses technology and mass media, various materials and found objects in the production of art (Sinha, 2009). Perhaps best known for his large scale sculptural installation and multimedia works, his innovative shifts of producing new, hybrid visual form that crossed sculpture, painting and user interaction, which later became a generational shift in art practices (India perspectives, 2010). Some example are 'Love' (2006), a Dinosaur skeleton mounting a pale yellow a jaguar; a series of enlarged eyeballs rotating in glass bell jars or else a set of scissors clacking in a white bathtub filled with water, an enlarged home shrine that reveals a mirrored interior and blood trickling out of a small, gunshot-sized hole (from the exhibition consanguinity, 2003); and a dog Skelton on a rocking table (eight corners of the world, 2006) (Sinha, 2009). Here, specifically explore some of the ways that Shetty's work continues with his early interest whilst inventing new means of addressing these ideas. In so doing, he also continually uses readymade objects with technological advances that contributed to broader cultural and social changes (India perspectives, 2010).

In this manner Subodh Gupta (b.1964) use of cow dung is an act of exploiting the meaning we gave to things and ideas. In Gupta's installations (Pure 1999) we enter a semi-circular room made of cow dung cakes (a material and form used widely in rural India for construction and fuel) and watch a video of Gupta in his tiled shower washing off dung which is slathered on his body. Gupta highlights the distinction between notions of purity and impurity through the material he uses, and thus satirizes the Indian obsession with caste boundaries (Sinha, 2009). In Gupta's work's concept is also supreme and the "idea" is behind the artist work with the use of technology. Technology also plays a major role in Gupta's work because he uses videos and different types of advance technology, including painting, sculpture, photography, video, installation and performance art. Gupta's has incorporated found objects and everyday materials-cow dung, milk pails, kitchen utensils, tiffin boxes, bicycles and scooters (Seid, 2007).

Moreover, artists have applied the conceptual approach to exploring technological ideas with their works. Artist such as Shilpa Gupta (b.1976) have successfully captured, to the new media with the invention of videos and computers and incorporated this new medium in their work. Through her work involves the extensive use of technology it is not to isolate or highlight the importance of technology but rather is a means to the end shedding light on the experience. Another vital message encoded to her work is how technology has percolated our lives and caused us to be ever so dependent (India perspectives, 2010). Mumbai based Shilpa Gupta created an interactive installation (Your kidney Supermarket, 2002) where one could hypothetically buy the ideal kidney via the internet. In her installation/performance 'Blame' (2002), in response to the 2002 communal riots in Gujrat, she sold little bottles of "Blood/Blame" on the Mumbai local trains which read "blaming you make me feel so good. So I blame you for what you can not control, your religion and your nationality. I want to blame you, it makes me feel so good" (Sinha, 2009).

Technology has been a major player in the global impact of 21st century artists from India. Regardless of these points of intersection and the fact that conceptual art emerged during

moment of intensive artistic experimentation with technology, few scholars have explored the relationship between technology and conceptual art.

8. CONCLUSION

From the forgoing description it is depicted that art has many modes of expression. In India it has always enjoyed an esteemed position. It is not just confined to drawing, sketches, brush and paints. One of the most expressive approaches of art is “installation art” and “installation performance”, “sculptural installation” and video art. One phase of contemporary India present the incomplete process of modernization and the complicated role of technology. Technology has been a major player in the global impact of 21st century artists from India. Technology has been a major play role to expand their views and ideas in contemporary art in India. Another concept came into lime light that is conceptual art. So today artists use variety of mediums, and they have shared in their work, through “ready-made” objects. And make new comprehensive art work can be formulated “installation art” and “installation performance” and “sculptural installation” with the notable exception of Vivan Sundaram, Nalini Malini, Subodh Gupta, Shilpa Gupta, and Sudarshan Shetty. These artists work is connected with art and technology, and conceptual based. Conceptual art is one such form of contemporary art, where the idea or concept exists behind the work. Finally we arrived at this point that in India art most closely approaches broader interdisciplinary conceptual art and technology. Conceptual art was clearly not a style, but an expression of the importance of the conceptualized idea. This belief permeated process art, as well as art-and-technology. Marcel Duchamp who introduced the concept of readymade objects. Marcel Duchamp’s work changed the ideology of art not in India but throughout the world.. The concept of “conceptual art” gave a new vision to Indian artist to explore their feelings and ideas through concept and ideas with readymade objects and technology.

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