Issues in Contemporary Art: Art and Technology

Jessica Griggs – Feb 23, 2009

Introduction

Technology will always continue to develop and remain as something that is perceived to improve our lives. Some advanced technologies have enhanced considerably, while other inventions or reproductions are perceptively more of a disadvantage to society. As a result traditional ways are sometimes more practical or useful than new or advanced ideas. Technology is used by many in society. For example, artists are using new forms of technology to better their art or to possibly make it more interesting, daring or different to traditional styles of painting, drawing, sculpture and textiles. Technology has given artists more possibilities and opened up a new range of working and creating different styles of art. Examples will be discussed throughout this essay on how new forms of technology widen possibilities to artists. Moreover, negative and positive points will be discussed to compare older technologies with the new and improved, reinforcing the notion of technology in the artistic world.

Pieces of technological equipment help us to perform particular activities or jobs in our lives. It is a tool used to achieve a certain purpose or process, a paintbrush or ink pen, for example, is a form of technology, progressing to a better piece of equipment for artists every time it is advanced. Technology can get a job done faster or it can slow things down considerably. Using technology in art is not new; it has and will always be around. Some older technologies are still used today but these are advanced into a different form or style. Technology can be an art piece on its own, artists can choose to create a whole new technological object to express their artistic idea or use a formerly manufactured technology.

The Technology of Paper

The development of paper is one form of technology and an artistic method that has changed through time. According to HQ Group Co. (2004) paper originated around 3000bc in Egypt when the local people cut thin strips from the Papyrus grass, softened it in water and layered the strips to form a mat. This was then hammered into a thin sheet and dried in the sun. Ideally, this kind of paper was used in several countries for scripts, record keeping and also artworks.

Through time paper has developed into something much more advanced but still uses the similar substance of trees and plants. In the 13th century the Chinese introduced papermaking techniques to the countries of Europe (Curtin University Study Guide VIS19, 2008). They used to soak individual fibres of plants in large vats of water, then surfacing a fine sifting screen through the water which caught the fibres and intertwined them while the water was being drained (HQ Group Co., 2004).

Papermaking became a new technology to create a useful medium, therefore the demand for it was made manifest. Nicholas Robert invented a machine that could produce a seamless length of paper. This machine soon replaced the individual handmade sheets of paper and the idea of paper being mass produced progressed onto a larger scale of engendering for newspapers, books, bags, toiletry papers and money (HQ Group Co., 2004). Even though hand made paper is not produced in large quantities, it is still made for artistic purposes. The notion of handmade paper is a novelty for many, making it a common art or craft medium.

Although paper has and still is used as a record keeping medium, computer technology has to a greater degree replaced the use of paper due to paper deterioration and security reasons and the need to store mass information. According to the HQ Group Company (2004) paper that was made during the nineteenth century has deteriorated because of bad manufacturing methods due to the use of damaging chemicals. Over the last fifty years however, research and experimenting has achieved a better quality paper, especially for artists, which lasts longer, hence the new an improved production of acid free paper (HQ Group Co., 2004). Although paper is used as one of the main mediums in art, some artists prefer to use technology such as computers or digital cameras. Computer generated imagery, projecting screens with slideshow images, films, animations and digital installations are used to create artwork.

Technology in artistic methods

Movie and film animations in the past were drawn by hand and artists had to use their own style of drawing to create each individual frame in order to display moving pictures. Through years of development and technology advancement, animations are now created digitally on computers

by complex programs, making the work of an artist easier in various ways. This new form of technology has also opened up a wide range of possibilities for animation artists mainly because these artists can create a style of art that can be further established into many more possibilities. Ilana Yahav is a well-known animation artist who uses her hands and sand on a glass table to animate a story for appropriate times. As Yahav draws into the sand it is filmed and projected onto a large screen to perform live entertainment for audiences. Although Yahav uses her hands and the natural sand to make her art, the use of technology keeps the artworks alive so it can be replayed and viewed many times. This kind of process in art cannot be kept as a tangible art piece; therefore the filming of the artistic process becomes the artwork through technology. Specific recorded music is also chosen to affect the moods of the audience as the animations are created (Yahav, 2009).

The notion of film as an artwork gave artists a new form or medium to work with in order to express an idea. Motion imagery, filmed performances and animations can give a stronger message than a static image; therefore many artists use these technologies to express their art ideas, making it aesthetically appealing to many audiences.

Art made easy

With all of today's new technologies the work of an artist is made easier, unlike the old masters of painting, artists today do not have to spend long amounts of time making up batches of paint to start their artwork. This is a new form of technology that artists did not have centuries ago, everything today is readily available, at their fingertips, to create a masterpiece within a few hours. Contrary to art mediums today, processes and mediums such as encaustic or tempera took a longer time to complete an artwork because of drying times and the certain mediums used to make the paint.

Earth Pigments Company (2006) claims that the encaustic method of mixing bees wax with resins and pigments was used by ancient Greek artists to paint warships, create artworks and make coatings for sculptures. The technique involves melting the wax and resin then adding the pigments to give colour, the medium was then applied hot and certain layering or application effects with heat allowed the artist to create a textural art piece. With new forms of art mediums

today, artists are free to choose any medium to create their masterpiece, having the convenience of technological art materials in a local store has made it easier for many artists today, compared to centuries ago when there were apparent limitations. Many new-fashioned art mediums are available and can assist in creating fresh interesting effects in an artist's work. Sculptures in ancient times would also have been a lot more difficult to sculpt compared to today where the use of machinery and power tools are handy. A stone-milling company in North Hollywood, California recently designed a machine that can scan several dimensions of an existing sculpture with a laser scanner. A limestone block is then placed in the computer-controlled milling machine and the laser-scanned data is duplicated onto the limestone block. The automated milling machine then carves the new sculpture into the block within a few hours, making the work of a sculptor with a hammer and chisel obsolete.

Joshua Tompkins states that this sculpting process is '…an example of how technology is transforming the way sculpture, architectural elements and many other once-hand-carved items can be created or cloned. Scanners, computer-aided design software and automated milling devices are assisting sculptors and in some cases replacing them, creating detailed pieces from slabs of marble and reverse-engineering complex forms' (The New York Times, 2004). Tompkins also says that if the sculpting craft fades, it will be because of equipment like the 'Mill5 five-axis milling machine'. It is equipped with a laser-scanner and 30 'interchangeable' diamond-tipped bits and blades which can record almost any object in minutes and duplicate a new sculpture in a few hours. Mr. Chang and Mr Lash, owners of this machine, assures artists that copies are not made without the right permission, they said: 'If someone brought me their Henry Moore and said, hey, make a replica for me, I wouldn't take it on' (The New York Times, 2004).

Photography

Photography has, for many years, been a major medium that artists use in their work to capture moments in time, evidence and beauty. Though it may seem strange to many today, Kazi Rubaiat Imam argues that photography took a long time to be accepted as an art form. When it did, photography replaced the need to create realistic artworks with drawing methods or paint

(The Financial Express, n.d.). Centuries ago when cameras were not yet invented, artists mainly created artworks that were real to life. Careful planning and accuracy of detail was accomplished to represent the realistic view of what the artist saw, these artworks are like a photograph with substantial attention to detail. In order for future generations to view people, landscapes or memories from the past, these masters had to create artworks that were real to life. Today realistic artworks are still practised but it is not as common because of new technology. Why spend hours or even days creating an artwork that is real to life when the camera can do it for you? This is true but then where would the creativity and enjoyment be if all artists used photography as their artwork?

Alain Briot states that photography is both art and science. ‘Photography allows us to express our feeling and emotions, but to do so we need to master the scientific part of the medium. Unlike a painter, who is in direct contact with [a particular] subject and [the] canvas, a photographer is separated from [a] subject by the camera and from [the] "canvas" by computers and printers today and by darkroom equipment previously’ (Reichmann, 1995-2009). Briot also discusses that photography can be overwhelming and fascinating in an artistic viewpoint, but in order for the photograph to be an expressive artwork the artist uses diverse techniques to express the image (Reichmann, 1995-2009). Imitating the exact picture from life can be less creative, therefore using different camera options can change the appearance of a scene and using extra effects to enhance the image gives better outcomes and milieu to an art piece. Technologies, such as lenses and filters, affect the way the photo is taken, blurring, sharpening, colour saturation, contrast, light and arrangement makes images more interesting and artistic. Photography has become the new art medium for many artists and it is used almost everywhere to give fascination and style to the world.

Technology as Art

Imam discussed about the relationship between art and technology. ‘Where is the line between art and entertainment? Between a masterpiece and a screen saver? A complex algorithmic, evolutionary art and a fractal’ (The Financial Express, n.d.)? Imam says ‘how many of us would really appreciate the art, now being made, where technology is like the paint on the canvas?’

(The Financial Express, n.d.). In some cases art is being replaced by digital art, new media art or generative art through technology, Imam discusses that there are many names and variations of what this art style should be called. The evident role of technology in artworks is now the element to testify or distinguish the development of a new art form and style.

Hal Cohen argues that a walk '…through an art museum can mirror a walk outdoors, as nature has inspired artists since people first used charcoal to draw on cave walls. Today, ambitious artists and accessible technologies have modernised the marriage of biology and art into bioart, coupling imagination and science to create animate, often interactive, works that put pretty paintings of flowers to shame' (Cohen, 2002). Artists have used modern technology with art since the 1960s to express creativity in a new form; today technology is classed as a principal medium for artists. 'Many of the art forms now take the form of installations with sound, graphics, videos, sensors or some combination thereof' (Cohen, 2002). According to Cohen many artists try to defeat the notion of 'static nature' in new art forms. When traditional art is displayed the only connection a viewer can have with the artwork is mental or contemplation. With today's technology artists can create more interactive and physical art for audiences, this makes art seem more interesting and fun for viewers.

Australian artist Jeffrey Shaw created an installation that was a new view of New York City. In this display the artist encouraged a person from the audience to sit on an immobile bicycle and physically pedal to activate a screen in front of them with a film of moving images. The purpose of the bicycle created the perception of movement through the film of the cityscape (Cohen, 2002).

Ken Rinaldo (2004) is another artist who uses technology to create interactivity with audiences. Rinaldo says that he is captivated and encouraged with the technological systems of humankind, the intelligence and autonomy that are modelled from our current conceptions of the natural.

> My art works are influenced by theories on living systems, artificial life, interspecies communication and the underlying beauty and pattern inherent in the nature and organisation of matter, energy, and information. While I find hope and fascination with our techno-cultural evolution, many of my works express concern for ecological issues, which are often not considered within the realm of technological and cultural progress (Rinaldo, 2004).

In 2006 Rinaldo created the 'Autotelematic Spider Bots' which consisted of artificial life robotic installations. Ten spider-like sculptures interact with the viewers as they walk and talk around the installation, the robots self-modify their behaviours with the movement and sounds of the immediate surrounds. Another interactive art piece by Rinaldo is the *Standby Deliver* which consists of steel plates facing each other that are attached to motors, the plates move back and forth over a glass sugar molecule. Viewers are given chewing gum and after chewing it they stick it to the plates so when the plate moves back and forth it creates long strands of the coloured gum. After many cycles, the glass sugar molecule, which is underneath the plates, is coated with the colourful goo (Rinaldo, 2004). All of Rinaldo's artworks are extremely diverse and new, showing different uses for technology and enlightening viewers to a new fashion of technology and art.

In conclusion technology has and will continue to give artists many new possibilities and ideas to create new types of artworks. New forms of technology also give artists freedom to create art like never before; it shows the world that art can be anything from a painting on a wall to a life-size interactive sculpture with advanced technical concepts and examples. Not only does technology make art but it can also be the art form. Technology in art has become the new art medium for many artists because it gives fascination and a different style to the world.

References

Cohen, H 2002, 'Artists use scientific techniques to create new forms', *The Scientist*, vol. 16, issue 22, no. 57. Retrieved: February 9, 2009, from http://www.ekac.org/thescientist.2002.html

Reichmann, M 1995-2009, The Luminous Landscape: *Reflections on Photography and Art*. Retrieved: February 10, 2009, from http://www.luminous-landscape.com/columns/Reflections-Introduction.shtml

Rinaldo, K 2004, *Emergent Systems*. Retrieved: February 20, 2009, from http://kenrinaldo.com

Study Guide 2008, *VIS19 Issues in Contemporary Art*, School of Design & Art, Curtin University, Perth.

The Earth Pigments Company 2006, *Artist's Encaustic*. Retrieved: February 9, 2009, from http://www.earthpigments.com/art/artists-encaustic.cfm

The Financial Express (n.d.), *Relationship between technology and art*. Retrieved: February 10, 2009, from http://www.thefinancialexpress-bd.com/search_index.php?page=detail_news&news_id=32458

The New York Times 2004, *When Technology Imitates Art*. Feb 10, 2009, http://query.nytimes.com/gst/fullpage.html?res=9D02E6DC1E3AF931A15754C0A9629C8B63

Yahav, I 2009, Sand Fantasy. Retrieved: February 7, 2009, from http://www.sandfantasy.com/index.htm

Bibliography

Beckman, T 2004, *Photography as Art*. Retrieved: February 10, 2009, from http://www4.hmc.edu:8001/humanities/beckman/artclasses/Art.htm

Bellis, M 2009, About.com: *History of Photography.* Retrieved: February 20, 2009, from http://inventors.about.com/od/pstartinventions/a/stilphotography.htm

Brown, P 1996, *Networks and Artworks: The Failure of the User Friendly Interface*. Retrieved: February 9, 2009, from http://www.paul-brown.com/WORDS/NETART.HTM

Devaney, L 2008, eSchool News: *Technology makes art education a bigger draw.* Retrieved: February, 20, 2009, from http://www.eschoolnews.com/news/top-news/?i=55283

Kleiner, F 2005, *Art Through the ages: A global history*, Thomson Wadsworth, U.S.A.

Kusahara, M (n.d.), *Device Art: A New Form of Media Art from a Japanese Perspective*. Retrieved: February 9, 2009, from http://www.intelligentagent.com/archive/Vol6_No2_pacific_rim_kusahara.htm

Lambert, K 2007, Digital artists handbook: *Publishing your work*. Retrieved: February 20, 2009, from http://www.digitalartistshandbook.org/node/25

New Media Caucus 2008. Retrieved: February 9, 2009, from http://www.newmediacaucus.org/

Ohio State University (n.d.), Art & Technology. Retrieved: February 5, 2009, from http://artandtech.osu.edu/index.html

Pengelly, J 2001, *Towards a 3D printmaking process using CAD, CAM and RP Technology.* Retrieved: February 9, 2009, from http://www2.uiah.fi/conferences/impact/pengelly/Pengelly.pdf

Reichmann, M 1995-2009, The Luminous Landscape: *Reflections on Photography and Art*. Retrieved: February 10, 2009, from http://www.luminous-landscape.com

Review Painting (n.d.), *History of Painting*. Retrieved: 20 February, 2009, from http://www.reviewpainting.com/History-of-painting.htm

Study Guide 2008, *VIS19 Issues in Contemporary Art*, School of Design & Art, Curtin University, Perth.

Sturken, M & Cartwright, L 2001, *practices of looking: an introduction to visual culture*, Oxford University Press, New York.

The Age 2006 *New art form lifts game.* Retrieved: February 9, 2009, from http://www.theage.com.au/news/games/new-art-form-lifts-game/2006/04/12/1144521343036.html

The Art Institute of Chicago 2003, Art, Science and Technology. Retrieved: February 5, 2009, from http://www.artic.edu/aic/education/sciarttech/

Thomas, P 2002, *Why do my eyes hurt? Directors Statement in Biennale of Electronic Arts Perth.* John Curtin Gallery, Curtin University of Technology.

Trinity Collage Dublin 2001-09, *Crossings: Electronic Journal of Art and Technology*. Retrieved: February 5, 2009, from http://crossings.tcd.ie/

Wikipedia: The free Encyclopedia 2009, *Digital Art.* Retrieved: February 9, 2009, from http://en.wikipedia.org/wiki/Digital_art