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DIGITAL BRUSHSTROKES: DIVERSE TECHNIQUES IN CONTEMPORARY DIGITAL PAINTING

By

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A Thesis Submitted in Partial Fulfillment
of the Requirements for the Master of Arts
with a concentration in Media Studies
in the Department of Art
The School of Arts and Sciences
Rhode Island College
2011

ABSTRACT

This paper examines digital painting's place in an evolving digital culture by focusing on six prominent and emerging digital painters. Digital painting enables the traditional painter to paint using new technology with little experience in traditional painting. But few digital painters are able to transcend the technology to create aesthetically pleasing compositions that address traditional design elements and content. Since digital painting is so new and not yet well understood, important questions are posed that may not yet be answerable. Digital painting has presented the viewer with new ways to view painting shedding some light on the art viewing experience. This thesis defines the digital painting audience, discusses how it differs from a traditional painting audience. It also addresses different types of digital viewing venues, the types of audience participation in each, and examines whether there is an ideal setting in which to view digital painting.

The methodology used to gather and analyze theory was conducted by readings and research in contemporary new media theory, by email interviews and ongoing conversations throughout the research process with the six digital painters presented and a select group of new media theorists. Arguments are presented by theorists pertaining to how digital technology influences the aesthetic of the image.

It is suggested here that a digital painting's aesthetic quality exists in the final image. Digital technology is a tool with which to paint offering the artist another medium. Yet the aesthetic quality of such technology is separate from the final image and may or may not contain its own aesthetic.

This thesis concludes with a discussion of how diverse technologies will continue to offer the artist an array of opportunities to convey a visual narrative. Also discussed are my own realizations about digital painting, how my own art has evolved, and how my research has allowed me the opportunity to network with the artists and theorists researched in this project. Digital painting is an evolving art, and the how the artist's relationship to traditional and to digital art differs in important ways.

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1: INTRODUCTION

The simple definition of digital painting is art created with the use of some form of digital technology. A much more complex definition of digital painting is art created with some form of digital technology during any phase of its creative process, and/or the final result requiring a form of digital technology in order for it to be viewed. As a new and evolving art, digital painting is considered a subcategory of traditional painting. Many traditional painters and sculptors have embraced digital painting as their primary medium, applying traditional techniques such as impasto, watercolor, oil and acrylic in various computer software programs. Its newness lends itself to endless possibilities, as artists explore the many tools digital technology has to offer. The acceptance of digital painting as an adequate art form is a topic of much controversy, criticism and fluidity. Digital painting allows anyone with little or no experience in traditional techniques to paint digitally, but few painters are able to transcend the technology to create aesthetically pleasing compositions that address traditional design elements and content, conveying a successful visual narrative while simultaneously expressing their own point of view.

Similar to traditional painting, both the process and the final image are equally important. With the exception of adhering to design elements such as contrast, color science, organization, perspective, etc., there are no absolute rules traditional painters follow to achieve a desired result. The same is true for digital painters. The digital painter

has developed her own set of "rules" to paint digitally, but there is not a required procedure. Digital painters make their aesthetic decisions based on their intended aesthetic. It does not matter how the final image is achieved; whether or not it is manipulated by the artist's hand in a traditional manner or that the artist used a form of digital technology to create the image. The goal of an artist in each medium is to create an aesthetically pleasing composition. Digital technology offers so many possibilities to the digital painter that she must determine which technique best suits her aesthetic point of view. The ability of technology to either enhance or inhibit the digital painter's aesthetic sensibility lies in how the painter chooses to approach digital technology. Persons with different skill levels will approach the software differently.

An experienced painter intimidated by the interface will follow it step by step. A nonpainter who had never seen a watercolour set and thought Winsor and Newton was a law firm would be looking for tips about making a "good" painting. A researcher into the growing adaption of technology to painting, and of painting to technology, would note each refinement in the convergence of real and simulated paint. (Faure Walker 207-208)

Digital painting challenges the artist with being able to conceptualize her ideas solely with new technology, no longer requiring pencil and paper. Forcing the artist to think digitally, the 21st century offers artists tools to bring what is imagined to a reality, and they approach digital technology as both a new medium and a new surface that exists inside the computer.

The computer has enormously expanded creativity by allowing for a greater exploration of chance, and thus for creation of more complex aesthetic "permutations" – different combinations of identical elements – than traditional art has ever created, indeed, allowed or even thought of. It has given us more efficient means of manufacturing that has never existed before. (Kuspit 11)

The digital painter has at her disposal a palette with millions of colors, a multitude of brush sizes, a variety of canvas sizes, various filters affecting brightness, contrast, opacity and transparency and numerous ways to view the final image. Even with these many options available to the digital painter, art's traditional foundations will not be abandoned.

Chapter two of this thesis presents an analysis of methodology as it applies to the digital painting medium, new media theories and their relevance to digital painting. Some theorists argue the aesthetic lies in the technology, the technology actually containing its own aesthetic separate from the image. Others argue that how a painting is made has no relevance to the aesthetic of the final image. It is the aesthetic of the final image that is valued.

A mark is a mark no matter how it is made. What that mark is made of...
may be immaterial. With a full appreciation of our mind's ability and our
own human willingness to accept a well-constructed fantasy for a reality, it
makes little difference if that mark is on paper or suspended inside a dream
or registered as a fluctuation in the magnetic field of a hard drive. (Jarvis,

"Treachery" 6)

Chapter three considers six prominent emerging digital fine art painters – Joseph Nechvatal, Gerhard Mantz, Ursula Freer, Jeri Holt, Holger Lippmann and Peter Mc Lane. The digital technology they each use to paint and selected paintings by each artist will be presented and discussed. These artists each use a different form of digital technology to paint and this fact has played a part in this selection. The process each artist uses, what has influenced each as artists, and the imagery characteristic of each will be explored in this chapter.

Chapter four introduces the digital audience and how digital paintings are viewed, with respect to how traditional museums are addressing the needs of exhibiting digital paintings, viewer's expectations and the how the Internet has created a new venue for art exhibition. Digital painters are able to market themselves as artists via social networking sites, online museums, personal website and blogs. The online art museum will never replace the brick and mortar art museum, but rather exist as a museum with equal credibility. The global reach of the online art museum will only continue to grow and expand society's acceptance of digital paintings. According to Wolf Lieser, curator of The Digital Art Museum website, "a pure online museum is in accordance with digital art as a medium. (Lieser 273)

Chapter five concludes this thesis with my own realizations about digital painting and how this research has changed my personal opinion about digital art in general. The research for this thesis took me on a personal journey as an artist, allowing me to form a greater respect for digital painters and digital paintings than I had ever thought possible.

Additionally, my own art has evolved into a synthesis of traditional and digital art creating a style I can truly call my own. I now have a better grasp on the connection between the artist's intention and the final image, that is formed when using digital technology to make art. This chapter also poses questions about the future of digital painting's role pertaining to whether or not it will replace traditional painting or complement the medium. Many of these questions are not yet answerable since digital painting is still in its infancy. Lastly, this concluding chapter recognizes the network of key figures in the digital art arena that I am now a part.

2: METHODOLOGY

A digital painting encompasses not only a final image, but also the digital technology that the digital painter uses to paint. The intangible surface that exists inside of the computer, according to many new media theorists, plays a key role in the final aesthetic of a digital painting. However, some digital painters argue that the digital technology is simply a tool to paint with, just as the traditional painter uses a paintbrush and canvas. "Heidegger reminds us that it doesn't matter how good the tools are, it is what is done with them that matters. The artwork employs a medium and the artwork is itself also a medium for the aesthetic experience." (Geczy 96) Digital technology contains its own aesthetic quality as do acrylic or watercolor paint. Painting digitally addresses color, line, composition, form, etc. in a fashion similar to traditional painting. The computer becomes another surface, a type of canvas for the painter to paint on. This new canvas, although physically untouchable, presents the viewer with an array of new opportunities with respect to viewing the final image. However, in both digital and traditional painting, the tools used to create the image affect the final image from the standpoint of how the image was created. In the end, painting digitally is simply another way to paint, another medium on equal playing field as watercolor, oil or acrylic. The blending of human and computer to form a new cultural way of thinking is evident in digital painting, as the digital painter blends traditional skill sets with technological skill sets. JD Jarvis, a digital artist and a commentator, writes about the relationship between the human artist and the computer:

As the artist works back and forth between relinquishing control to the caprices of the tools and materials, a symbiotic dance between the maker and what is being made is formed and nurtured. This visual jam session gives rise to imagery that the artist could not have imagined without the spontaneous interface between the psyche, the artist's hand and the work as it evolves in the moment. (Jarvis, "Toward" 16)

Many new media theories have no relevance to digital painting. Many digital painters, in fact, argue that the digital painting's aesthetic lies in the final image, and that the digital technology used to create the image is simply a tool, just as in traditional painting brushes and canvases are tools with which to paint. As a new paint medium, digital painting is new and evolving, still in its infancy for the artist, viewer, theorist and critic. There has not been much relevant theory presented yet as this new territory is explored.

During the research process of this thesis the greatest challenge I faced was the scarcity or written material pertaining to digital painting. New media theory addressed digital art in general, focusing mostly on cinema, but the relevance of new media theory regarding digital painting as a form of digital art seems tangential. I attributed this to digital painting's infancy, but also realized the need for further research on digital painting, enabling me to determine that it is a subcategory of painting. Finding myself at a standstill in my research I decided to reach out to the digital painters and theorists who

were an integral part of my research. ¹I contacted each digital painter, a few media theorists, and curators of online museums and digital art organizations discovered during the research process via email and/or FaceBook. Email interviews were conducted with each of these. The support I received once I introduced myself as a graduate student writing a thesis on digital painting was and continues to still be exceptional. I developed a network of individuals who provided a wealth of information. Through the use of FaceBook as a networking tool I was able to develop a relationship with many key players in the digital art world. The outpouring of support from all has been incredible.

As a result, I founded a BLOG – Digital BrushStrokes

www.digitalbrushstrokes.blogspot.com - to include key components of my research and to serve as a companion to this thesis, with the intent to continue to develop Digital

BrushStrokes into a website rich with information pertaining to media theory and digital art. Digital BrushStrokes has been recognized globally by digital artists and has also been mentioned on MOCA – The Museum of Computer Art's website in a recent newsletter.

The information provided to me during the interviews with various artists can be found throughout this thesis. The one commonality shared by each interviewee was the digital painter's opinion of media theory. They each expressed to me that painting digitally is just another way to paint, another medium. Certainly knowledge of digital technology is necessary, but it does not hinder these artists from expressing themselves any differently than artists have throughout history. The information I have received from

1

¹ For a list of interviews I conducted as part of my research refer to Appendix A of this thesis. Links to artist, theorists, digital art museum websites that I consider an integral part of digital art can be found on my blog Digital BrushStrokes – www.digitalbrushstrokes.blogspot.com

artists and theorists on a global scale would not have been found in any written material, in print or online.

Media theorists Lev Manovich and JD Jarvis propose that the image's aesthetic extends beyond the surface, encompassing and giving due credit to what lies inside the computer, the mirror inside the computer, the intangible surface. JD Jarvis, a digital artist and theorist suggests that the inner workings of digital technology can be treated as a type of canvas on which to paint. (Jarvis, Email Interview) Certainly, the computer plays an enormous role in digital painting, however, the digital painter's ability and/or desire to simulate, mimic and replicate a desired aesthetic within this new surface is equally important. The digital painter attempts to become absorbed by the technology, rather than thinking of digital painting software as much different than traditional painting tools.

Although some new media theories certainly have their place in many types of digital art, digital painters JD Jarvis, James Faure Walker, Ursula Freer and Joseph Nechvatal have expressed in interviews that new media theories have zero relevance to digital painting. To the digital painter, digital technology is simply another type of canvas. James Faure Walker, author of *Painting the Digital River* and a colleague of Lev Manovich, a leading media theorist, commented in a recent interview:

I have known Lev Manovich a while...and he started out as a painter in NYC after Moscow. I have some interest in philosophy etc (did my postgrad on that in the early seventies), but over the years, and having written art criticism, and edited it a lot... I do not see why we need to consult with that department.. any more than they need to take advice

about painting before writing their treatises on this or that. (Faure Walker, Email Interview)

Each seems to agree with Heidegger's argument that art is art, and the medium, although it changes the outcome of the final image, does not have such a crucial impact on the final image as many media theorists propose. Another way to look at it is to view the aesthetic of digital technology as a part of the whole aesthetic.

Lev Manovich, a new media theorist, purports that the term "post-media aesthetics" suggests the aesthetics of the image lies not only in an image's visual aspect, but also in its process. (Manovich, "Post-Media" 4) The technology used to paint digitally, such as the Wacom tablet and stylus, or digital painting software such as Photoshop, ArtRage and Corel Painter, contain their own aesthetic quality that contributes to the final image. Digital painters embrace technology to make art, making conscious artistic decisions at every stage.

In *The Language of New Media*, Manovich presents five principles of new media. The five principles are numerical representation, modularity, automation, variability and transcoding. Each principle can be applied to digital painting either individually or in concert with one another. The five principles of new media are evident in digital painting regardless whether or not the digital painter is aware of them. The principles exist within the digital painting unseen by to the viewer and the artist. However, each principle's characteristics play a key role in the aesthetic of a digital painting.

Numerical representation proposes that all media can be represented in mathematical terms, which can be manipulated as an algorithm. In digital painting this

principle is undetectable to both the viewer and the artist as it occurs behind the scenes. Numerical representation is programmable as a series of zeros and ones that represent colors, sounds, motions, letters, shapes, etc. The digital painter need not have any knowledge of the numerical representation sequences required to paint a blue sky or green foliage. Digital painting software programs such as Photoshop, ArtRage and Corel Painter are equipped with what is required of numerical representation built into the software. The digital painter simply applies the necessary keystrokes in order to achieve her desired result. Although the principle of numerical representation is a necessary component of digital painting, its abstract quality allows the artist to paint with ease, rather than concerning herself with its technical aspects. The invisibility of zeros and ones are a key component of Manovich's post-media aesthetics. However, post-media aesthetics contends that an important part of the digital aesthetic is the technology or inner workings of that technology that allow the image to be created. Without the zeros and ones, the digital image would not exist. Due credit must be given to the digital painting software's ability to perform the artist's intended task.

Modularity allows the image to maintain its independence and can be edited in the program originally used to create it. As the computer allows for an artist's digital image to be viewed and experienced from various locations, viewers are able to download the image and view it using a variety of software. The modularity principle states that what makes up all the parts of the image – colors, shapes, sounds or other behaviors – are each dependent upon each other. They are part of a whole, but are strong enough to stand on their own. But when all elements of the image are combined, they in turn create another

component separate from the sum of its parts. Digital painting software involves creating an image in what is referred to as layers. Each layer can be manipulated by applying filters in the software program, changing such aspects of the image as brightness, contrast and saturation. Each layer maintains its independence from the others, but simultaneously each relies on the other to make a complete image. Each part supports the other, but can be broken apart and still contain its own aesthetic. Often varied from that used by the original artist, the artist's signature or mark is lost as the viewer places a new type of signature or mark as a screen resolution and color become different from that of the original.

Automation of an image refers to how the image can be automatically controlled and/or operated and cannot exist without numerical representation and modularity. Hyperlinks within a website present the viewer with images or text that when clicked with a mouse will automatically direct the viewer to a particular place. Automation becomes a key design principle as the functionality of the site becomes just as important as the design. Usability becomes just as important as the aesthetic quality of the design. Unlike numerical representation, and modularity, the digital artist must be fully aware of the functionality of her artwork in order to achieve desired results. Human behavior and needs should be anticipated from the design's conception in order to address the needs of the user.

Variability refers to when a new media object is presented in different versions.

These versions are partly assembled by a computer and maintain their independence while part of an assemblage of multiple images. An example of variability in digital art is

when an image is presented in various forms – on the screen, CD or jump drive, printed on various colors, or weights of paper. The principle of variability is an important principle in digital painting since it can exist in many different variations. A digital painting can be viewed in both digital and printed format, each a variation of the original image. The viewer on her personal computer can change the size of the painting. How this affects the image's intended aesthetic is an important element of the principle of variability. "Instead of identical copies, a new media object typically gives rise to many different versions. And rather than being created completely by a human author, these versions are often in part automatically assembled by a computer." (Manovich, *Language* 36)

Technically, transcoding refers to the translation of new media into another format. An image that is created in a particular software program such as Photoshop may need to be converted digitally and saved in a certain format in order to be viewed successfully. Another example of is traditional paintings and drawings, which are then digitized so they may be viewed in digital form. When digital paintings are created in Photoshop, ArtRage or Corel Painter, they must be saved in a particular format based on how they will be viewed. However, according to Manovich, transcoding is when "the computer layer and the cultural layer influence each other...The result of this composite is a new computer culture – a blend of human and computer meanings, of traditional ways in which human culture modeled the world and the computer's own means of representing it." (Manovich, *Language* 46)

Successful digital artists are able to develop, maintain and nurture a relationship with digital technology in much the same manner that a traditional painter or sculptor is able. Although the digital painter does not physically have paint on her clothing or hands, she is still connected to her work. Jarvis also contends that the digital aesthetic is affected by the Manovich's new media principles. However, Jarvis purports that the artist's aesthetic sensibility has a key effect on the image's aesthetic. It is the blending of the two, human and computer, that contribute to the uniqueness of digital art. (Jarvis, "Uniqueness" 3)

In traditional art, both the artist and the viewer are concerned with specific design principles which are standard in the art world. Composition, proximity, visual hierarchy, unity, symmetry/asymmetry, repetition, contrast, balance, dynamics, rhythm, proportions, dominance and emphasis each play key roles in creation, analysis and criticism of art. Traditional art's format has always been on either paper, canvas, in 3-D form such as sculpture or installations or multimedia, and typically housed in a museum for viewing. Digital art has introduced to the art world a medium in which art is no longer presented on paper or canvas, but rather viewed on a computer screen from multiple locations, such as CRT displays, LCD displays, in museums and home computers, etc., employing a new set of design principles and just as relevant as traditional design principles and terminology. Concepts such as interactivity, modularity, automation, telepresence, manipulation, representation, variability, transcoding, teleaction and simulation have now

become key words in the design field as each term is given careful consideration as digital art is created.²

Composition, which refers to the elements of a painting and how they are positioned on the canvas in relation to each other, has always been taken into consideration when creating, viewing or analyzing. Typically applied to a canvas to be hung on a wall or painted as a mural directly on a wall, the traditional painting is not easily moved from one place to another. As digital art is now created on a new type of canvas – the computer screen, the image takes on a new form. No longer is one restricted to viewing the image from only one location: it can be viewed from multiple locations. Composition is now considered within the frame of the computer monitor that can be viewed in different screen resolutions, affecting the color and clarity of the image for each viewer.

The digital image when compared to traditional painting now includes the interactive element as one in which the viewer is physically engaged in scrolling up and down the computer screen on the Internet or clicking on designated parts of the image, actively participating in changing the image's color and/or size, rather than simply viewing it.

Interactivity refers to the artwork's interactive behavior experienced by the user.

Web sites, for example, allow the viewer to navigate the site in an order that one chooses, creating a new aesthetic experience for each participant. Web sites are designed to intentionally control the user's experience pertaining to the order in which the

² See Lev Manovich's book *The Language of New Media* for a definition of these terms.

information and content is presented. I find it interesting that the terms used in navigating a web site are derived from terms of traditional art dating back to ancient times. For example, scrolling up and down a web page originated from ancient scrolls of paper which text was written.

The terms "cut and paste" originate from the pre-computer age when documents were literally cut apart and pasted together to create a particular layout. Also, the construction of web sites is based on a grid structure when designing the site, a structure which has been in place since ancient manuscripts and the early European printed books. Simultaneously, the concepts of telepresence and teleaction are evident when navigating a web site, as one is able to "travel" to a remote location from one's own physical location. Never before in art history has the viewer been able to participate in what she is viewing at such an interactive level.

the Internet can be considered as one huge telepresence environment that allows us to be 'present' all over the world in multiple contexts participating in communication and events or even intervening with remote locations from the privacy of one's homes. (Paul 154)

Manipulation can be defined as the manner in which images are transformed through the use of software application filters, such as adjusting the size or coloration of an image. Digital artists employ many different types of manipulation to images, resulting in a representation of the image in an original form.

Simulation in digital art attempts to make an image appear what it is not as the viewer is involved in a place, time or situation that does not actually exist in real time. Online museum collections are examples of simulation, as the viewer is not physically present at the museum, but rather is present virtually via the Internet or is simulated to be there. "To dissimulate is to pretend not to have what one has. To simulate is to feign to have what one doesn't have. One implies a presence, the other an absence. But it is more complicated than that because simulating is not pretending." (Baudrillard 3)

Six artists, Joseph Nechvatal, Gerhard Mantz, Ursula Freer, Jeri Holt, Holger Lippmann and Peter Mc Lane use some form of digital technology to create digital paintings. Each artist uses his/her own process and imagery and continues to evolve as an artist in the emerging field of digital painting. Influenced by traditional painters and sculptors, each artist has developed his/her own technique, aesthetic and way to express an ability to not only transcend the technology but to also be absorbed by the digital technology. The work of these artists will be the focus of the following chapter.

3: DIGITAL PAINTERS

Artists began using technology to create digital art as early as the 1960s, but from 1950 onward latter half of the 20th century and the first ten years of the 21st century, digital art has become a fast growing medium. Technology has given traditional artists the opportunity to create art in a digital format, which includes digital painting. Artists utilize various computer tools and software to achieve desired results, but are they able to successful convey their aesthetic point of view working in this medium? A paintbrush, held in an artist's hand and canvas, is a tangible way for the painter to express her feelings. When a form of technology takes the place of the paintbrush or the canvas, is the artist's style still visible as it is with a Van Gogh painting? How is the hand of the digital artist able to influence the final image when the hand has not actually physically applied the paint?

This paper will introduce six artists, Joseph Nechvatal, Gerhard Mantz, Ursula Freer, Jeri Holt and Holger Lippmann and Peter Mc Lane who make use of digital technology embracing digital painting as their primary medium. The types of software and technology they employ in the creative process enables these artists to convey their distinct point of view in an effective manner. An analysis of selected digital paintings by each artist will follow with respect to traditional design characteristics – composition, proximity, visual hierarchy, unit, symmetry/asymmetry, repetition, contrast, balance, dynamics, rhythm, proportions, dominance and emphasis. Their digital paintings have become distinguishable enough that one is able to recognize the particular artist's style

when viewing a painting. These artists have also developed their own unique method of using different types of digital technology. Digital paintings are typically viewed on screen via a computer monitor, but often times, in an effort to remain true to painting as a valid art form, digital paintings are printed on canvas as an additional version of the final piece. Aesthetically, digitally paintings viewed on screen or via a digital method, include the element of light in the composition, affecting color, tonality, contrast, emphasis, and often times, texture. "To evoke in oneself a feeling one has experienced and, having evoked it in oneself then by means of movements, lines, colours, sounds, or forms expressed in words, so to transmit that feeling that others experience the same feeling – this is the activity of art." (Tolstoy 179) According to Merriam Webster, the word "soul" is defined as "a person's total self; the moral and emotional nature of human beings; the quality that arouses emotion and sentiment." I will use this term here on as defined by Webster. As the artist creates from the soul, the use of technology as a tool in creating art is examined from the perspective of a highly skilled machine operator versus an individual who can draw. The goal of an artist is to be able to convey her vision regardless of the technique and/or medium. What happens to the relationship between the artist and the artwork in digital art? Whether the art is traditional or digital and whether or not the artist is trained in art or another field, the common goal sought by both mediums is to create a shared aesthetic experience for the viewer. A personal relationship is formed between the artist and her artwork regardless of how the art is created. In traditional art, this relationship is evident in the style, which is formed by the artist. In digital art, often

³ According to *Merriam Webster Dictionary* the word soul is defined in this manner on the dictionary's website – http://www.merriam-webster.com/dictionary/soul.

times this style is not as clear as the intangible digital technology is not visible as are traditional paint and brushes. The technology itself exists in an abstract form making it difficult for some to grasp the inner workings digital painting.

Since the intuitive painting process still holds a certain fascination for most people, a lot of the time the preliminary work on the computer is a topic which isn't willingly discussed by artists, since it thoroughly threatens to demystify the creative process. (Leiser 80-81)

What happens to the relationship between the artist and the art in digital painting with respect to an individual style? The artist's perspective emerges by becoming the reality one is seeing. Digital painters have the same ability to convey their point of view or a message as traditional painters.

Joseph Nechvatal

Joseph Nechvatal, founder of the Computer Virus Project, has been utilizing technology to make art since 1986. Nechvatal describes his paintings as computer-robotic assisted acrylics on canvas created with a virus-like computer program. Nechvatal works with a programmer who creates a virus within the computer. The files are then transferred to a computer-driven robotic machine, which paints with a brush onto canvas. Originally trained as a performance artist and painter, Nechvatal's work focuses on the "aesthetic sensations linked to concepts of technology, a mental prosthetic. And the function of this prosthetic art is to create by extenuation different technological-aesthetic percepts."(Popper 3) Patterns and color saturation are key elements in Nechvatal's paintings, which are directly created and/or influenced by the behavior of the virus. The energy of the virus directly affects the tonality and luminosity of the final image. As a digital artist, Nechvatal believes technology enables the artist to have more freedom than traditional painting, architecture or sculpture. He is interested in how the artist is able to utilize technology in a challenging manner. "It's by violating the traditional limitations that art and technology have heretofore defined themselves that there is room to really run." (Pocock 52) The paintings created by Nechvatal each take on their own set of moods through the happenstance of colors, contrasts, highlights and saturation of color, which are created by the virus-like program altering and transforming the image. The characteristics of Nechvatal's paintings are ambiguously and androgynously sexually

themed. As the computer virus continues to attack the image, its ambiguity becomes stronger.



Figure 1 Joseph Nechvatal, *Orgiastic abattoir*, 2003, computer-robotic assisted acrylic on canvas, 44" x 66". www.nechvatal.net image used with artist's permission

Nechvatal's painting titled, *Orgiastic abattoir* (Figure 1) is part of a exhibition titled Aventures Virales (Viral Adventures) and is considered a "virtual hermaprodite" as images of testicles, ovaries, female breasts and buttocks of both males and females are manipulated with a computer virus. The saturation of red, yellow and magenta are presented as an opaque layer of color on top of a transparent layer of flesh tones. Beneath the flesh tone layer is yet another layer of brown tones. It is unclear whether the two round shapes at the top of the composition represent male or female sexual body parts.



Figure 2 Joseph Nechvatal, voluptuary droid décolletage, 2001, computer-robotic assisted acrylic on canvas, 66" x 120". www.nechvatal.net image used with artist's permission

In *voluptuary droid décolletage* (Figure 2) the layers of color placed upon each other create a texture throughout the composition. The painting is divided into four sections from left to right. The first section of various hues of blue appears pixilated, representative of a virus eating away at the forms depicted. The second section, a vertical yellow stripe, divides the painting with a strong emphasis. In the third section, a voluptuous woman is lying with her backside in view. The right section of the painting contains purples, blues, greens and dark reds, which seem to represent veins in the human body. Nechvatal blurs the line between male and female throughout his paintings, which is evident in *voluptuary droid décolletage* also.



Figure 3 Joseph Nechvatal, debauched tissue exstasis, 2002, computer-robotic assisted acrylic on canvas, 77" x 51". www.nechvatal.net image used with artist's permission

In *debauched tissue exstasis* (Figure 3) there are once again representations of breasts, testicles, buttocks and ovaries, but they are placed within a grid. (Nechvatal, "Voluptuous" 2) There is a vivid rectangle of bright red and blue placed horizontally across the painting dividing the composition. As I view this painting, I become more and more curious as to what lies beneath the surface of color. The transparency of colors in this painting gives a sense of depth between the background and the foreground.



Figure 4 Joseph Nechvatal, hermapOrnOlOgy OvOid maxism 2002, computer-robotic assisted acrylic on canvas, 44" x 88.5". www.nechvatal.net image used with artist's permission

Similarly, *hermapOrnOlOgy OvOid maxism* (Figure 4) presents the viewer with a composition enhanced with transparent colors. The two oval shapes in the center of the painting are just close enough to touch one another, but just far enough away from one another as to not invade each other's space. The reference to male and female reproductive organs is not as evident in this painting as it is in many of his other paintings. However, that is what makes this painting so interesting – its abstract quality leaves me wanting look further as I want to learn more about what is being depicted.

The colors in each section of Nechvatal's painting are strong enough to stand on their own and form their own composition. The androgyny of the subject matter in Nechvatal's paintings lends itself to a world of possibilities. Nechvatal attempts to imitate the decay within our world⁴ with respect to the human body as he utilizes a computer virus to attack his paintings. "The hybrid image suggests an androgyny... which depicts transmutation as a universal principle driving the nature of the world." (Paul 57-58) The outcome is out of his control, as is the case when a virus such as AIDS or cancer attacks the human body. Intriguing and mysterious, Nechvatal feels that he able to successfully express himself as a digital artist. (Nechvatal, Email Interview)

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⁴ Nechvatal writes about how he attempts to imitate the decay in the world through his images in an article which can be accessed at the website Eye With Wings – http://www.eyewithwings.net/nechvatal/Paris07/WWWParis07.htm

Gerhard Mantz

Gerhard Mantz is a German sculptor who has become one of Germany's most well known digital artists. He creates virtual landscapes using Adobe Photoshop, a photograph manipulation software program and Vue, a 3D software program that has the ability to create realistic and fantasy landscapes, waterscapes and cityscapes. Mantz's landscapes address an absence of consciousness as he attempts to capture what lies beyond our awareness. His virtual landscapes are created in an effort to spark emotion in the viewer. (Mantz 10) Upon entering an environment, the viewer is often tricked into believing it is in fact realistic, but soon realizes that the paintings are a virtual representation of reality. According to Mantz, his landscapes are inspired by Caspar David Friedrich, a nineteenth century German Romantic painter whose paintings are considered allegories and fantasy, and by Robert Smithson a twentieth century Earthwork artist.

Gerhard Mantz also withdraws himself from this strict separation in his constructed landscapes: on the one hand through the choice of subject that represents consecutively nature and cultural construct, and on the other hand through the construction of atmospheres that induce real emotions in the viewer and which are again the result of the interplay between nature and culture. (Mantz 10)



Figure 5 Gerhard Mantz, Nachsichtige Vergesslichk, (Indulgent forgetfulness), 2006, Pigmented ink on canvas, 39.4" x 70.9" www.gerhard-mantz.de image used with artist's permission

In *Indulgent forgetfulness* (Figure 5) Mantz has depicted a landscape setting with a strong horizon line; this complements the emphasis on the strong vertical rhythm created by the trees and their reflection in the water. The murky water, with its muted colors, allows for a wonderful contrast between the images in the background and the foreground. As I look at this painting, I am curious to know what lies beyond the farthest tree and beneath the cloudy water. The connection to German Romantic landscape painting is evident as I become entranced by Mantz's ability to give a sense of grandeur to nature.



Figure 6 Gerhard Mantz, Nach Einem Langen, After a long day, 2006, Pigmented ink on canvas, 39.4" x 86.6" www.gerhard-mantz.de image used with artist's permission

In *After a long day* (Figure 6) the subject matter is a collection of silhouetted trees set against a cloudless blue sky and a body of water. The repetition and rhythm created by the trees and the reflection make it easy to read this painting from left to right, while simultaneously focuses on the center of the composition. Mantz emphasizes the contrast between lights and darks in this painting. The reflection of the trees in the water helps to establish a strong dynamic in the composition as a whole. What lies past the treetops? Is it safe to venture into the wooded landscape; will the mysterious quality of this painting provide an environment of peace and harmony? Is there a human presence nearby, or miles of isolation from humanity? Mantz's landscapes create an uncertainty about reaching solid ground. His depiction of nature is both mysterious and inviting.



Figure 7 Gerhard Mantz, Kollektiver Aberglaube, Collective superstition, 2009, Pigmented ink on canvas, 39.4" x 70.9" www.gerhard-mantz.de image used with artist's permission

In *Collective superstition* (Figure 7) Mantz presents a dynamic waterscape in a traditional composition. The contrast between lights and darks is evident throughout the painting, as is the fervent use of numerous horizontal lines on various levels. The branches of the trees on either side of the green water appear as if they are attempting to reach across the body of water, ready to enclose anyone who is brave enough to venture into the background and to the left. As I view this painting, I am both terrified and

enthralled. I want to explore the natural setting, but I am hesitant as it is unclear what lies beyond the branches.



Figure 8 Gerhard Mantz, Abstossung Und Anziehung, Repulsion and attraction, 2009, Pigmented ink on canvas, 39.4" x 70.9" www.gerhard-mantz.de image used with artist's permission

Repulsion and attraction (Figure 8) is a landscape with a prominent panoramic view of an embankment of trees adjacent to a reflective body of water. The contrast of lights and darks as well as the complementary colors bring this painting to life. The tree's branches are extending to the sky creating a physically powerful dynamic throughout the composition. The leaves of the trees create a repetition of shapes populating grayish blue sky.

Gerhard Mantz's landscapes are created solely from his imagination, symbolizing life in an idyllic setting. But, an idyllic setting to whom? In each of his landscapes, the path to what lies beyond appears unapproachable while simultaneously intriguing. The horizon lies out of reach but just close enough to spark curiosity. This theme of repulsion and attraction as one of his paintings is titled, is a theme that pervades Mantz's images. Mantz successfully depicts landscapes containing traditional design elements such as repetition, symmetry/asymmetry, visual hierarchy and proximity.

Ursula Freer

Ursula Freer, an artist living in New Mexico, uses Photoshop to manipulate photographs which she overlays on top of one another, and then applies filters and paint. Using a Wacom tablet and stylus as her digital brush, Freer approaches each painting with the same aesthetic intent as she would when using traditional paints and brushes. Freer states on her personal website: "My interests lie in the connection between man and nature, our planet and the universe, science and art. I think that we are nearer to an understanding these connections." (Freer 1) Evidence of Freer's intent can be seen in her digital paintings, which marry the textures and colors of nature that are bursting with lush, dreamy and optimistic images. Digital technology gives Freer the opportunity to enhance these characteristics and present the viewer with her own interpretation of what she sees. Working with images is my way to experience, gain insights and communicate these concepts about how things work on many levels. It is my wish that the viewer of my work will resonate with my sense of wonder and be drawn into exploring these profound realities. According to Freer, "the medium is quite amazing, there seems to be no end to the possibilities for creative expression and great freedom for communicating ideas." (Freer 1) Freer used a Wacom tablet and stylus⁵ and Photoshop to paint Night *Pond* (Figure 9) without a photographic reference. The transparencies of color and shape produce textures throughout the painting.

The strong dynamic of the composition is evident in the apparent difference between the foreground and the background of the painting, as it invites the viewer to

⁵ A Wacom tablet and stylus is a digital canvas and digital paintbrush. More information on this technology can be found on Wacom's company website - http://www.wacom.com/index2.php

explore what might lie behind. *Reef* (Figure 10) was an experiment with shapes and colors for Freer as she allowed what began to appear in the painting to determine what would happen next.



Figure 9 Ursula Freer, Night Pond, n.d.,
Digital Painting, Web
available in printed form, sizes – 20"x9", 26"x12"
http://ursulafreer.com/index.php?image=003
image used with artist's permission



Figure 10 Ursula Freer, *Reef*, n.d., Digital Painting, Web, available in printed form, sizes – 9"x13", 12"x17", 15"x21" http://ursulafreer.com/index.php?image=0029 image used with artist's permission

Similar to *Night Pond* the palpable transparencies in *Reef* seem to enhance the depth of the painting. As the viewer looks into the center of *Reef* the image does not seem to have a clear definition of depth of space, but rather offers the viewer an exploration of what lies beyond.



Figure 11 Ursula Freer, *Bamboo*, n.d., Digital Painting, Web, available in printed form, sizes – 9"x12", 12"x16", 15"x20" http://ursulafreer.com/index.php?image=9921 image used with artist's permission



Figure 12 Ursula Freer, *Joyous Meadow*, n.d., Digital Painting, Web, available in printed form, sizes – 9"x14", 12"x1", 15"x23" http://ursulafreer.com/index.php?image=0022 image used with artist's permission

Bamboo (Figure 11) and Joyous Meadow (Figure 12) originated as photographs, which Freer "painted" to achieve her intended aesthetic by duplicating shapes and colors with respect to the tonality and multiplicity. The balance in Bamboo lies in the vertical lines of the bamboo stalks. The dark green colors of the leaves set against the lightly colored background generate a strong contrast throughout the composition. In Joyous Meadow multiple colors produce a strong texture, enhanced by opaque and transparencies. The viewer's eye gravitates to the center of the painting, and expands outward to the edges of the composition, via a v shape.

Shaped by contrasts of lights and darks, Freer's digital paintings contain traditional design elements. Hierarchy, balance, rhythm and repetition can be seen throughout Freer's digital paintings. The digital aesthetic lies in both the process and the final image. In an interview with Freer, she spoke about what it is like to work in a digital

medium. "For me personally digital tools facilitate a more effective way to express my aesthetic. The method of layering images (my favorite) is one of the examples." (Freer 1)

Holger Lippmann

Holger Lippmann, an artist living and working in Germany, digitally paints abstract landscapes. He uses *Processing*, a computer programming language that was developed by Ben Fry and Casey Reas in 2001 as a way to program images, animations and interactions. Processing requires the user have knowledge of its language or code, to control the final image and serves as Lippmann's digital brushstroke. Although he does not use traditional paint and brush, he still achieves texture, tonality and a strong dynamic in his compositions. The aesthetic choices Lippmann makes during the creative process are evident. According to Lippmann, conscious aesthetic decisions are made throughout the entire painting process. Such factors as studio environment, color choices and the like are given careful consideration as they each affect the final outcome of the painting. (Lippmann 1) *Processing* software allows Lippmann to convey a narrative beyond the visual while engaging the viewer in his intended aesthetic at the moment of perception. "If there is such a thing as a *Processing* aesthetic, it springs from the experience of connecting your own circuits with the universal capability of the computer to expand and repeat." (Leiser 177) Lippmann's abstract landscapes underscored by geometry are rich with multiple layers of both colors and shapes, inviting the viewer to explore the many objects and paths that are created.

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⁶ The *Processing* software is available as a free download on the Internet www.processing.org, along with free tutorials.

At first blush, Lippmann's digital paintings appear to have been painted with traditional paint and brush. As a digital painter, he addresses the complexity of shapes, colors and form in his paintings, and gives each element the same attention visually.



Figure 13 Holger Lippmann, After the Rain, 2009, Digital Painting, Web, diasec, 180 x 136 cm, (70.8 in x 53.5 in), edition of 2 circulation series, landscapes, cycle "Painting with Processing" http://dam-berlin.de/Gallery-act-displayimage-album-41-pos-9.html image used with artist's permission



Figure 14 Holger Lippmann, Water Lily Pond, 2009, Digital Painting, Web, diasec, 180 x 136 cm, (70.8 in x 53.5 in), edition of 2 sine/cosine circulation, water pond series, cycle "Painting with Processing" http://dam-berlin.de/Gallery-act-displayimage-album-41-pos-8.html image used with artist's permission

After the Rain (Figure 13) and Water Lily Pond (Figure 14) are each printed using a diasec format, a process used for face-mounting prints on acrylic glass. Texture is created in each through the use of contrasting colors, varying hues and the relationships they form. Traditional design principles such as unity, balance and spatiality are evident. Lippmann's arrangement of complementary colors offers the viewer a visual journey, as the eye is guided through the composition.



Figure 15 Holger Lippmann, *Corrosive Landscape*, 2009, Digital Painting, Web, ink on canvas, 180 x 136 cm (70.8 in x 53.5 in), edition of 2 Cycle "Painting with Processing" http://dam-berlin.de/Gallery-act-displayimage-album-41-pos-4.html image used with artist's permission

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⁷ According to Wikipedia, http://en.wikipedia.org/wiki/Diasec, the process was invented by Heinz Sovilla-Brulhart in 1969. Because of the different light penetration and refraction of acrylic glass compared to normal glass, the colours are more brilliant and the image sharper than compared to standard glass in a picture frame.

In *Corrosive Landscape* (Figure 15) the final image is ink on canvas. A strong dynamic is created through the use of horizontal lines, creating a regular rhythm.

Symmetry is produced by tonality, saturation and contrast of color in this composition. Lippmann's choice of color and its placement create a strong dynamic. At first blush, Lippmann's digital paintings appear to have been painted with traditional paint and brush.

Jeri Holt

Jeri Holt, an artist living in Maine, uses digital painting as her primary medium. Formally trained as a painter and sculptor, her main goal is make her art part of the real world and she achieves this by printing her digital paintings. Holt uses fractal rendering, which is art produced by mathematical manipulations⁸ yet Holt's aesthetic sensibility is dependent on subconscious decisions in the placement of lines and shapes. Holt's paintings can be characterized as texturized, abstract landscapes which depict a moment in time representative of the stillness of nature.



Figure 16 Jeri Holt, Good Morning Sunshine, 2010, Digital Panting, Web, www.withdigitaleyes.com image used with artist's permission

In *Good Morning Sunshine* (Figure 16) a fractal creates a horizon line, as the landscape's yellow and gold hues create depth and texture within the composition.

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⁸ Fractal rendering is defined by Jeri Holt on her website www.withdigitaleyes.com. Fractals are generated through the use of algorithms originally used by mathematicians. More examples of fractal rendering can be seen in the work of Jay Jacobson-http://www.fractalism.com/fractal-art.htm

Gazing into the landscape of the viewer's eye is drawn to the horizon line as a sort of invitation to what lies beyond.



Figure 17 Jeri Holt, Fishing Sheds, 2010, Digital Painting, Web, www.withdigitaleyes.com image used with artist's permission



Figure 18 Jeri Holt, *Untitled*, 2010, Digital Painting, Web, www.withdigitaleyes.com image used with artist's permission



Figure 19 Jeri Holt, *Blueberry Burn*, 2010, Digital Painting, Web, www.withdigitaleyes.com image used with artist's permission

Holt's use of a centered horizon line is evident in *Fishing Sheds* (Figure 17) *Untitled* (Figure 18) *and Blueberry Burn* (Figure 19). The textures in *Good Morning Sunshine* created by the use of a fractal also add depth to the composition. Holt uses Photoshop and ArtRage to paint digitally, with a focus on textures throughout her compositions. Her digital paintings look much like traditional paintings with respect to the characteristics of the brushstrokes. Holt sells her final images in printed form using Ultrachrome K3 pigment inks, printed on paper or canvas available in various sizes. She writes about how she prefers her images to be viewed in her blog, *Explore the Vision* – *with Digital Eyes Studio*:

I sit and watch my prints as they emerge from the printer. It is probably a waste of time, but I'm mesmerized as the image that I've spent hours, day, even weeks working on in imaging and painting programs is finally born. It isn't real until it is rolled out

of the printer. I watch as the image inches out, making judgments as it appears. This is the test – is it good or not? Is it what I wanted it to be? A digital artist isn't complete until their image is printed and many digital artists, like me, feel that the ability to print a true representation of the vision we see on the screen is as much an art form as the creation of the image itself. They work in tandem to produce a single piece. One isn't complete without the other. (Holt 2)

Peter Mc Lane

Peter Mc Lane is a French digital painter who is considered one of the early pioneers of digital art. Formally trained as a traditional painter, Mc Lane began using a Wacom tablet and stylus to paint in the early 1980s. A Wacom tablet is a pressure sensitive pad connected to a computer via a USB port. The stylus is used as a paintbrush as brushstrokes applied to the table are made visible on the computer's monitor using software such as Adobe Photoshop and Corel Painter. Mc Lane's decision to work in the digital painting medium was a personal one. In an interview with Mc Lane, he describes technology's role in art in these words: "The change is as important nowadays with the computer that it was in the old times when painters stopped to paint on the walls and adopted the canvas as material to produce new pictures." (Mc Lane, Email Interview) Mc Lane uses the stylus like a traditional paintbrush as he applies paint chosen from a virtual palette of color. He begins all his paintings with a white screen just as he would when beginning a traditional painting. Since Mc Lane's paintings are intended to be viewed digitally, the sizes of the paintings are not specified as in a traditional one. Mc Lane draws inspiration from cities in both Europe and the United States. He considers himself a Surrealist, influenced by Ernst, Tanguy, Dali and Bosch, Mc Lane wants the viewer to feel the energy of his compositions that are jam-packed with obscure objects in unexpected settings. (Mc Lane, Email Interview) Relying solely on his imagination, Mc Lane uses colors and juxtaposition of items within each painting as a personal choice. He paints from his soul and feels he is able to successfully express himself: "Using this method he expresses himself violently, gently, stealthily, the colours, hot like molten lava explode, stream and flow into each other." (Mc Lane 1)



Figure 20 Peter McLane, Venice Night, 1995, digital painting, size varies. www.peter-mclane.com image used with artist's permission

Mc Lane's painting, *Venice Night* (Figure 20) presents the viewer with a composition, exploding with color. As I look at this painting, I quickly forget that it was not painted with a traditional paintbrush, but with a digital paintbrush. The layer upon layer of color and transparencies encourage me to look further into the painting in search of obscure objects Mc Lane chose to include, such as the two violins. The buildings appear as if they are melting or rippled, which also contributes to the energetic tone of the composition.

The buildings and lampposts are clearly depicted as a contrast exists between the color of the water and the sky. Mc Lane's use of white creates a sharp contrast against the dark night. As I look at this painting, I am curious to see what lies beyond the center of the composition past the red and white barbershop-style posts. The colors in the water seem to give me a sense of mystery as I look further into the surface of the water. The strong vertical lines created by the architecture allow the buildings and lampposts to appear tall giving way to an intimate setting on the water. The path leading to the

buildings in the background seem to invite the viewer to hop onto a gondola and explore this intriguing city. Although there is a strong emphasis on color, repetition and contrast in Mc Lane's paintings, they border on kitsch, are extremely commercial representations of an interesting and sinking city, often with marginal status.



Figure 21 Peter McLane, My Monet, 2000, digital painting, size varies. www.peter-mclane.com image used with artist's permission

In *My Monet* (Figure 21) an homage to Monet, by Mc Lane, the colors depicted throughout the composition are heightened. In the painting a nude woman is sitting on a lotus flower in a pond facing a light turquoise bridge. To the left of the woman is a ledge of rock with steps leading to a small campfire and a red object, which might be her clothing. The woman appears to be looking into the distance towards the bridge which spans across a waterway of surrealistic colors – turquoise, gold, purple, violet, green – each in various shades. The textures of the brushstrokes in the water create a contrast with respect to the subject matter. Here this woman sits in a peaceful meditative pose, amid vivid color. Mc Lane's choice of color brings an energy to this composition. The

texture and contrast seen in the green shrub to the right of the woman complements the gold paint in the water. Mc Lane utilizes classic design elements as he entices the viewer to look beyond the bridge and wonder what lies on the other side.



Figure 22 Peter McLane, *Insouciance*, 2009, digital painting, size varies. www.peter-mclane.com image used with artist's permission

In *Insouciance* (Figure 22) objects are placed together in what appears to be a train headed towards the viewer. Mc Lane includes a violin, once again, a man perched atop a pile of treasures in what appears to be a conductor's pose. Is he conducting an orchestra or a train explosion? To the right a nude woman is standing on a stage and in the foreground of the painting various hues of red and black with sharp contrasts of light and dark make it unclear as to what Mc Lane wants the viewer to see here. Mc Lane seems to cater to the male gaze, enticing the viewer's eye towards the direction of the nude woman. The definition of the painting's title according to Miriam Webster dictionary is "indifference" or "lack of care or concern." I find this ironic as a title for this painting, as it appears to me that something unexpected or violent is happening, to which lack of concern would certainly not be what I would feel in such a situation. I feel as if I

want to peel back the layers of color in an effort to reveal what lies hidden behind each object.

Mc Lane's paintings discussed have a few things in common. They are full of vivid and unrealistic color, textures and obscure objects. Mc Lane's intent when painting in digitally, he says, is to have a fun, to paint from his soul. (Mc Lane, Email Interview) In my opinion, these paintings are a representation of an artist who has included a part of his pysche and personality in each brushstroke. The weight of the lines, the transparency of some of the colors in contrast to the opaqueness of other colors and the color chosen create a positive, upbeat energy throughout a painting.

Although Nechvatal, Mantz, Freer, Holt, Lippmann and Mc Lane each use different types of technology to create their art, the one thing they have in common, and probably most important, is that they are able to effectively express themselves aesthetically. Their paintings, although not painted with a paintbrush in a traditional manner, do contain traditional design elements. Overall, the message each artist wants to convey is that of an aesthetically pleasing composition that is painted with a form of digital technology as its medium. Digital painting as a medium is new and evolving, in its infancy. There is no mystery in the message, but rather these digital painters desire to be recognized as artists, but it just so happens that they are using digital technology as a tool with which to paint. "It has been suggested that the creation of artwork such as paintings or drawings on a computer implies a loss of relationship with the 'mark' – that is there is a significant lack of personality in the mark one produces on a computer screen as opposed to one on paper or canvas." (Paul 60) The artists discussed in this paper establish

a style of their own, seen in each of their paintings. Just as one would be able to identify a Van Gogh or a Monet painting, these digital painters' works are also identifiable. As technology advances at a rapid rate in the twenty first century, traditionally trained artists are embracing its unlimited potential. Nechvatal, Mantz, Freer, Holt, Lippmann and Mc Lane are good examples of such artists as they have each carefully chosen the form of technology that will most effectively enhance their artistic point of view. Nechyatal's abstract computer-robotic assisted acrylics on canvas paintings might not have been as successful had he chosen to work with a Wacom tablet and stylus as does Mc Lane. Or Mantz may not have achieved a landscape of such grand proportions had he used the same software as Mc Lane. Freer and Holt may not have been able to achieve the same results in their paintings had they used the same Processing technology as Lippmann. Nor might Lippmann have been able to convey his point of view with a Wacom tablet and stylus. However, such diversity in technology is what makes digital art so fascinating. Digital art offers unlimited possibilities for an artist to create from his/her soul via a machine that is soulless. Or is it?

Nechvatal, Mantz, Freer, Holt, Lippmann and Mc Lane certainly seem to have developed and made evident a personal relationship with the art they are making. For these artists, the digital medium offers a chance to express themselves with enormous challenges and possibilities. Through digital art, these artists are able to allow the world to experience their paintings with ease. "The painting now travels to the spectator rather than the spectator to the painting. In its travels, the meaning is diversified." (Berger 20)

We are living in time of fluidity in the art world, as the twenty first century offers artists ways to innovatively express themselves in incredibly innovative ways.

4: DIGITAL AUDIENCE

The digital audience plays a key role in digital painting's place in the art world. As a subset of painting, digital painting continues to evolve with respect to audience members and how it is viewed. Its place in an evolving culture is one that is in a state of flux. Often compared to traditional painting, some media theorists such as JD Jarvis and James Faure Walker argue that digital painting should not be compared to traditional painting since the artists who paint digitally do not compare themselves to traditional painters. Digital painting has presented to the viewer new ways to view painting.

Different from traditional painting that is presented in a physical space, requiring the viewer to be physically present, digital painting can be viewed virtually via an Internet connection. Museums and galleries are now faced with a new challenge with respect to digital painting exhibitions.

Curators now need to consider new conditions and characteristics the digital painting viewer experience brings with it. A simple white wall to hang the digital painting will no longer suffice, but rather, overhead lighting, access to certain technology and physical distance between the viewer and the digital painting must be given close attention. The viewing experience is changing how museums and galleries curate their exhibits and recent audience theory has shed some light on the art viewing experience.

Many traditional museums have added online exhibitions on the museum's website as a

companion exhibit to their collections in an effort to compete with virtual museums and galleries.

The digital painting audience differs in some important ways from the traditional painting audience. The digital painting audience seeks out digital paintings by either fellow artists or as part of its own research and curiosity. In some circumstances, the digital painting viewer can be in control of the viewing experience. Some viewers encounter digital painting in museums and galleries, and some online outside these institutions. The digital painting audience encompasses all viewers of digital art, but the most active segment, yet small, is the subset that actively seeks out digital art experiences, in particular digital painting. According to the website *Internet World Stats*, as of June 30, 2010, only 28.7% of the world's population had Internet access. Since a digital painting can be defined as a painting that has been created through the use of some form of digital technology, a little over a quarter of the world's population only will be able to experience digital painting via the Internet.

Digital painters are typically traditionally trained painters or sculptors who have embraced digital technology in an effort express their creative point of view. The digital painter is not a computer whiz kid who has opened a box of Photoshop and spent an evening playing with the software. Rather, the digital painter has a clear understanding of art, art history, design and the importance of content in a painting and is able to convey her intended aesthetic. In an effort to find digital painters online, a search in Google for "digital painters" results in links to individuals who are using digital painting software,

⁹ *Internet World Stats*, an International website, gathers current information on Internet usage bases on worldwide population. http://www.internetworldstats.com/

but are not considered fine artists. Rather they are individuals who are well versed in using digital painting software and may offer technical advice. In order to find digital painters who are fluent in digital painting software, but whose aesthetic sensibility is fine art based, one must consider digital painting a subset of traditional painting.

Not only has digital painting created a subset of artists who paint digitally, it has fashioned a new audience. The digital audience has some knowledge of digital painting based on personal hands-on experience or it has been introduced to digital painting in the art world by current trends, gallery and/or museum exhibits, fellow artists or art publications. Online museums and galleries offer a new venue for artists to display their work in the 21st century, and digital painting has found a comfortable place in this virtual venue.

Audience Theory

Audience theory focuses on five theories detailing how viewers are attracted to media, what keeps them interested and what mass media should consider keeping its audience interested. The five theories are the hypodermic syringe theory, the culmination theory, the two-step flow theory, the uses and gratifications theory, and reception analysis theory. 10 The hypodermic syringe theory proposes that ideas, attitudes and beliefs are presented to the viewer in such a way that they are thought to be "injected" into one's brain as a method of influence. The culmination theory contends that when a viewer is presented with media repeatedly, the viewer becomes desensitized to what she is viewing. The two-step flow theory contends that whatever the viewer experiences will be discussed with others and each individual will form her own opinions. The uses and gratifications theory contends that everyone has different uses for media, and as such, viewers make conscious choices as to what they will view. These last two theories can be useful as the digital painting audience is one that actively chooses to view digital art, has a personal vested interest in digital painting as its own genre and experiences different forms or types of gratification during the viewing process. An extension of the uses and gratifications theory, the reception and analysis theory contends that once the viewer has become interested in a particular form of media, the viewer then looks at what she is looking at more closely, wanting to gain a better understanding of not only what she is viewing, but possibly learn a bit more about its background. The majority of the audience

¹⁰ Further explanation of audience theory can be accessed at the website Media Know All which focuses on key concepts in media studies. http://www.mediaknowall.com

is comprised of digital painters or digital artists, each with a desire to learn more about what they are viewing. (Lippmann 1) Holger Lippmann stated in an interview that the digital painting audience consists of half fans of computer art and artists, art lovers and dealers. According to James Faure Walker, when discussing who visits gallery talks about digital art, the audience is made up of digital artists with a particular interest in the category of digital art being discussed and/or presented. (Faure Walker 95) The audience often times must seek out the digital painter.

Digital Aesthetic Experience

The digital aesthetic experience can be divided into three categories -the digital effect, interactive effect and immersive effect. Each category of digital aesthetic experience has a specific relation to both the artist and the audience; the latter considered a necessary component. In all three categories, it is assumed that the artist is conveying a narrative beyond the visual and that a viewer would want to engage aesthetic sensibility at the moment of perception. The digital effect is the most important type of digital aesthetic experience in digital painting. It is concerned with textures, lights, shadows and the overall result of the final piece. The painting's final aesthetic lies in what is being viewed. No involvement is needed on the part of the viewer, except to simply view the painting and appreciate, if you will, the artist's narrative beyond the visual. "The digital effect is relevant in that the viewer's aesthetic sensibility is not inhibited by the effect. The viewer of a work characterized as digital effect has full access to their reflective faculties and hence have full access to their aesthetic sensibility." (Weiland 1) The interactive effect is one that involves active viewer participation in order for the work to achieve its intended digital expression. A viewer may be required to click on a particular area of an image with a computer mouse to change the color or size of the image, which may affect the aesthetic of the image with respect to size. The immersive effect provides constant stimuli to the viewer's aesthetic sensibility, as the artist's intent is to invite the viewer to play an active role in its completion. For example, an installation may require the viewer to wear an apparatus that will sense the viewer's breath, which then in turn will affect the colors of the image. Char Davies is a digital artist who uses the immersive effect in her installation piece titled, *Ephémère*, 1998. The viewer becomes a participant

as she wears an apparatus on her head. The apparatus senses the participant's breath, which prompts the colors to change throughout the piece.

In digital painting, the viewing experience falls primarily into the digital effect category, as there is usually little participation required of the viewer. However, when an image is viewed on a personal computer, sometimes the viewer has the ability to change its size, adjust the lighting in the room, tweak the brightness/contrast of the computer monitor, choose the distance to sit from the screen, view the image at different online museums or galleries, project the image onto a wall or view it from various mobile devices such as an iPod, cell phone or laptop. The viewer's opportunity to change the conditions and characteristics of viewing the image often times does not present the painting in a manner in which the artist intended. The size of some digital paintings is often much too large for the personal viewing computer experience to do the image justice.

Art and technology have embraced each other's strengths and weaknesses to form such an evolving art form. Digital art has enabled the viewer to learn about emerging artists from the comfort of home rather than having to visit a museum or gallery to view art. The future will reveal whether home viewing will affect attendance at traditional museums. As digital painting continues to evolve, the overall aesthetic experience may or may not be influenced by location or method of viewing the painting.

At the apex of art and technology sit the issues of digital painting's place in the traditional museum, the role of the Internet's online art museums and galleries and whether or not there is an ideal setting in which to view digital painting. Throughout

history, a painting in its original form, hanging on a wall in a museum, gallery, someone's home, an institution or corporation's walls, has been the norm. What steps will museums need to take to ensure digital painting is given the attention it deserves? How will museum visitors respond to the changes in the museum space as it becomes filled with different lighting and the hum of the computer monitor? Nina Simon, author of *The Participatory Museum*, works with museums, galleries and institutions to engage viewers in playing an active role in what is being exhibited. According to Simon, in an interview with Art Digital Magazine, the museum and/or gallery must keep up with the technological demands of the 21st century by offering experiences that "allow museums new ways to connect with audiences." (Eternity 1) In an effort to still maintain attendance at traditional museums and galleries, curators must pay attention to the needs and demands of the viewer. The majority of the digital painting audience already has some knowledge of digital painting, the process, emerging artists, etc. So when digital painters exhibit their work at a gallery, it is typically within a subset of artists who are already familiar with digital painting. But attention must also be paid to addressing the new viewer's experience.

In an effort to attract new visitors, traditional museums and galleries have created an online presence by adding a website as a complement to the physical museum. These online gallery spaces provide an opportunity for digital painters to exhibit their work to an audience that may never have had the opportunity to visit the brick and mortar museum. Additionally, museums and galleries have had to incorporate digital painting exhibition needs into their programs. Curators are not only addressing the needs of

traditional painters, but are also faced with the technological demands of the digital painter; specific lighting, access to electrical outlets, particular audio and acoustics.

The manner in which digital painting is viewed has created many new venues for exhibits. Online museums and/or galleries, artist's websites, blogs and social media sites such as Facebook have become venues for digital painters to exhibit their work. Any website can post digital art, but few online museums and/or galleries have gained respect in the digital art world. The Museum of Computer Art - http://moca.virtual.museum/
The Digital Art Museum - www.dam.org, Art Digital Magazine - http://admag.wordpress.com/ and The Digital Art Guild - http://www.digitalartguild.com/ each has an online presence. Each virtual gallery focuses on emerging prominent digital artists worldwide, along with information about their contributions to digital art and art per se. Access to virtual galleries is available to anyone with an Internet connection, but as we have seen the target audience at this point in time primarily consists of digital artists, curators, educators and collectors.

Since one of the ways digital art can be viewed is on the personal computer, digital artists find themselves straddling both camps, the real and virtual worlds. *In*Painting the Digital River, James Faure Walker writes about how he continues to paint in both digital and traditional mediums:

Painting doesn't fit the digital lifestyle. The brush mark is human and imperfect, something unrepeatable that cannot be simulated. Ask a painter who dislikes computer images why; the answer is always the same: the absence of touch, of texture, of feeling. In my case, when those friends ask

whether I am "still painting," they must suppose that it is only a matter of time before my digital conversion is complete. I should be able to put a coherent answer together, but I can't. I don't know what to say, except that I am comfortable using both digital and physical paint; one does not necessarily replace the other. But I am not comfortable. I am indecisive. There are too many points of view, too many questions. But this also intrigues me. I like to think there could be a dialogue across the divide, but it happens rarely. It is a fundamental rift. (Faure Walker 19)

Digital painters also rely on self-promotion via the Internet through personal websites, blogs and social media sites. Joseph Nechvatal, Gerhard Mantz, Ursula Freer, Jeri Holt, Holger Lippmann and Peter Mc Lane are six emerging digital painters who use the Internet's reach to make their paintings available for viewing worldwide. "Artists do what they can for their works to be accessible, the preservation being intrinsically linked to the presentation of the work of the audience." (Laforet 1)

Joseph Nechvatal, founder of the Computer Virus Project, utilizes social networking sites such as FaceBook to promote gallery openings of his work.

Nechavatal's website, www.nechvatal.net, provides images of his paintings along with articles written by and about Nechvatal and his art. He exhibits his digital paintings to a worldwide audience using the Internet and also exhibits his work in traditional galleries in Paris. Nechvatal is a professor at the School of Visual Arts in New York and also serves as a guest lecturer at numerous colleges, discussing his own art and digital art as a new medium.

Gerhard Mantz, in Germany, is a featured artist on the Digital Art Museum's website, www.dam.org. Mantz utilizes his own personal website, www.gerhard-mantz.de/, to display his paintings to the world. Mantz exhibits his paintings in both digital and printed format.

A digital painter living in New Mexico, Ursula Freer makes paintings available for viewing on her personal website, http://www.ursulafreer.com, Art Digital Magazine and MOCA. Freer participates in digital art exhibits at traditional galleries throughout New Mexico and is actively involved in various collaborations of digital artists. She has written several short articles about digital art, has been a featured artist in Art Digital Magazine, has exhibited her digital paintings worldwide, and has participated in numerous online interviews.

Jeri Holt, living in Maine, markets her digital paintings through Facebook and her own website, With Digital Eyes - http://www.withdigitaleyes.com, where a digital painting can be purchased as a print in various sizes and papers. Holt considers each printed version of her paintings an original regardless of how many prints are made. (Holt 1)

Holger Lippmann, in Germany, exhibits his digital paintings to a worldwide audience in both printed and digital formats, is a featured artist on the Digitial Art Museum's website, uses his personal website http://e-art.co/ and Flickr, an online photo album, to showcase his art, has exhibited in traditional galleries in both Europe and New York and uses social media sites to introduce his paintings to the world. Lippmann has no preference as to how his paintings are viewed. However, he believes the final image

viewed in printed form seems to generate much more excitement in a viewer than it would when viewed on a computer monitor. (Lippmann 2) When a digital painting is viewed on a computer monitor, the viewer is typically not able to stand up and view the painting from a similar distance as when viewing a traditional painting.

Peter Mc Lane, living and working in France, exhibits his paintings primarily on his personal website, www.peter-mclane.com. Mc Lane takes advantage of any opportunity to display his paintings on various websites, blogs, online galleries and online magazines. He exhibits his paintings in traditional galleries worldwide.

The challenges these six artists are faced with as digital painters extend beyond the studio. They must take into careful consideration the needs and demands of the digital audience, while simultaneously bearing in mind the traditional audience. When exhibiting their paintings, exhibits are presented in digital format, printed format or often times both formats simultaneously. As stated above Lippmann claims the viewer expresses much more excitement when viewing his paintings in printed form. Today's digital audience seems interested in experiencing as much as possible in a short amount of time according to a study conducted by in September 2010 by Visual Measures, an international research firm which provides information to advertisers regarding audience behaviors. Therefore, it is quick to move on to the next piece, rather than spend enough time absorbing the painting's visual narrative. According to the study, when viewers were engaged in watching any type of digital media 20% of the viewers stopped watching after ten seconds. Further, after sixty seconds, the average viewer became distracted and wandered off to another form of media. (Cutler 2)

Digital painters in the 21st century are faced with the challenge of becoming recognized by the art world as prominent artists. The way in which digital painting is exhibited can either enhance or diminish an artist's credibility. Traditional museums and galleries continue to learn more about the needs of the digital painter in an effort to create an effective viewing experience and audience. Moving forward into the 21st century, the characteristics of the digital audience's needs continue to present artists, curators and art critics with new challenges. Consideration must be given to advances in technology, the attention span of the viewer, credible online venues for digital painting exhibitions and the relation between the digital artist and her audience. As long as these issues are not ignored, digital painting will continue to evolve in a positive manner. The digital audience's needs with respect to participation, interactivity and viewing methods will continue to play a key role in the how the digital painter will satisfy its audience.

5:CONCLUSION

As I embark on my journey as an artist in the digital age, I begin to realize more and more each day how blurred the distinction continues to become between traditional and digital painting. Rather than consider digital painting separate from traditional painting, leading contemporary digital painters in this thesis simply view digital technology as another tool with which to paint. New definitions of art and the numerous ways in which art can be made and experienced in the 21st century through digital technology have placed both the artist and the viewer in different roles than previously held in traditional art. A shared aesthetic experience is present in both traditional and digital painting, however, the vehicles employed to achieve desired results continue to evolve. Digital painting technology places the artist in a position in which she must be willing to experiment at the risk of both failing and/or succeeding. "The digital artist draws or paints with a set of programmed tools: the application itself, the various toolboxes from which the application is composed, and the computer's operating system." (Bolter & Grusin 139)

When I look back on my life as an artist, it reminds me how much time was spent reworking, redrawing, repainting my art, whereas, had the technology that is available in the 21st century been available twenty years ago, I would have been able to make art much quicker. But I can't help but wonder, would my art have conveyed the same message in digital form as was conveyed in traditionally? For many years my personal portfolio was housed in an oversized black zippered portfolio case, which had to be transported from place to another, ensuring the art did not become exposed to moisture,

extreme temperatures and remained flat in order to keep the it in tact. Over the years, I have spent many countless hours worrying about the well being of my artwork in the black zippered case— is it in a safe place? Would I be able get to it to quickly enough in case of fire? In an effort to ease my worries, my artwork now exists in digital form, saved on an external hard drive. I visit my art often, checking to see how it is fairing in the digital form, but I still cherish more than any of my possessions my oversized black zippered case. I flip through the pages on occasion and reflect upon the many hours spent making my art. The pages are a part of me, a part of my soul, a connection that I do not have with anything else in the material world. The aroma of the paper and how it feels when in my hands evokes a particular memory, unique to me as the artist. When I view the same artwork in digital form on screen, my portfolio's home away from home, the relationship between myself and my art is weakened as the aura, punctum and personal connection between my soul and my art is simply not the same.

Throughout history, current and evolving technology has played a key role in both how art is made and viewed. Digital painting embraces technology in the 21st century, and digital art as a new medium continues to present itself to a broader audience of both artists and viewers via the Internet. Artists have always employed technology in their art, but in the 21st century digital technology has brought art to the masses as never before in history. What will the future role of digital painting be? Will it replace all forms of painting, or will it simply complement the medium? It seems to me that digital painting, and its role in the art world, has incredible staying power. However, the shared aesthetic experience still remains a key component in both making and viewing art. We must not

forget the purpose of art, its role throughout history and its influence on the future. "In all likelihood, digital technologies will become more and more pervasive and will not constitute a category in themselves but become an integral part of life and art in general."

(Paul 212)

Additionally, when I first began my research on digital painting, I personally could not understand the connection that is formed between the digital artist and her art. There is a special place in the soul and mind of an artist that is triggered during the creative process. Similar to a meditative state, the artist becomes so engrossed in the creative process, the art and the medium in which she is working, that typically a trancelike state of mind occurs forming a particular connection between the artist and her art. Emotions can be interpreted in paintings through the use of color, brushstrokes, overall subject matter and composition. The personality of the artist continues to flourish as it emerges from the soul of the artist as is evident in art throughout history. Technology has invited artists to use various forms to create art with the use of the computer as a tool. In order for the artist to be able to successfully utilize the technology, a certain amount of training becomes necessary in order for anyone, including the formally trained artist, to use a computer. Some individuals are certainly more skilled in their ability to use a digital technology than others, however, this does not necessarily stop anyone from making art. As one walks through a painting studio, one's senses are awakened and stimulated as the aroma of linseed oil waifs through the air. There is a certain atmosphere that exists in an artist's studio that cannot be duplicated anywhere else. The artist becomes not only a part of the artwork but also a part of her surroundings, which in turn become part of her

painting. The artist paints with her entire body as she physically applies paint to canvas; her whole being is involved in the creative process as brushstrokes are varied within the same painting. This three dimensional space the artist is physically standing in becomes an important influence on the final outcome of the painting. The light source or lack thereof shining in through a window; the height of the ceiling as well as the equipment and furniture in the room cast shadows upon the subject matter being painted. The artist is able to move around the subject matter, whether it is a still life or a human model, deciding which angle will convey the most effective image on the canvas. The artist is also able to move her subject matter to the outdoors, taking advantage of natural light and shadows created by the sun or cloud cover along with the landscaped setting in which she places her subject matter. The artist walks away from the a painting, often times with paint physically on her body helping to create a unique bond between the artist and her art.

Digital painting is created in a much different physical setting than traditional painting. As an artist myself, I had never painted digitally and as a result found it difficult to write about digital painting unless I at least attempted to paint digitally. I began using ArtRage, digital painting software used by Jeri Holt, creating one painting a day for two months. My first painting was a total disaster, leaving me full of frustration at my inability to convey what I imagined on screen using a mouse as my paintbrush. I missed the aroma of turpentine and the paint under my fingernails. Finally, after many attempts, I began to feel comfortable working with the software. I combined my knowledge of Illustrator, Photoshop and ArtRage along with what I discovered about each artist's

process, techniques and images to create a variety of digital paintings. My own art has evolved into a synthesis of blending traditional and digital technologies to create a style that I am able to call my own. When I first began this research, the majority of information available on the subject of digital painting was scarce. Contacting the digital painters presented in this thesis, and networking with theorists that I had studied throughout my graduate studies, allowed me to gain a higher respect for digital art as a medium. The digital painters I have come to know have taught me that art is art. Digital technology offers the artist a new medium with unlimited possibilities. Aesthetically, all artists have a desire to convey their point of view visually; digital technology makes many of those desires once only imagined a reality.

As a result of networking with contemporary digital artists and theorists I have been invited to submit articles to MOCA, become a member of SIGGRAPH, submit my thesis to SIGGRAPH as a paper on digital painting, invited by Anne Spalter, who currently owns the largest digital art collection in North America, to view her studio and personal collection and invited to numerous gallery openings around the world. There is much more to be researched in the area of digital painting and I plan to continue to recognize digital painting's key individuals, moving forward through my Digital BrushStrokes Blog.

¹¹ A sampling of my own digital paintings can be found in Appendix B listed as Figures 23 through 26.

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APPENDIX A – ARTIST INTERVIEWS

*The following interviews are printed here verbatim from emails and may not always be in correct English.

Ursula Freer Email Interview By Michelle Tavano November, 2010

Michelle Tavano: Part of my research involves the digital painting audience and how viewing digital painting differs from viewing traditional painting. How do you prefer your paintings to be viewed, in print or strictly as a digital image?

Ursula Freer: I would like to see my work viewed in both formats, in print and digitally. I see no point in excluding either audience.

MT: Do you use Facebook and your personal website as a way to present your digital paintings online, which I have spent a considerable amount of time viewing. I first learned about your work on Art Digital Magazine website and have read a couple of articles you have written.

Since the digital painting can be viewed on a personal computer it gives the viewer the ability to resize the image. How much consideration do you give this when painting digitally?

UF: I have not used Facebook to present my work. There are quite a few online galleries inviting me to show on their site, I just have not gotten around to fulfilling all those requests yet. Since you have experience with Facebook, how would that be different or better? Well, there is not much one can do about this. Hopefully the quality of a high resolution print will be conducive to viewers choosing to acquire the print by legitimate means. I do not object to people using my image as a screensaver, but I would hope they ask for permission.

MT: Who do you think the digital painting audience consists of ? I feel it is made up of individuals that are digital artists, but I am having some trouble supporting this theory.

UF: I don't know of any actual research on the subject, but I would guess that online most viewers are digital artists, whereas in galleries most are not.

MT: One of the areas I am focusing on in my research pertains to the digital aesthetic and the artist's ability to convey a narrative beyond the visual engaging the viewer in aesthetic sensibility at the moment of perception. What are your thoughts on this subject?

UF: This would apply equally to digital as well as traditional media. I have used traditional media previously and have switched to the digital medium approximately 15 years ago. For me personally digital tools facilitate a more effective way express my

aesthetic. The method of layering images (my favorite) is one of the examples.

MT: Where do you primarily exhibit your paintings - traditional museums/ galleries in printed form or digital format?

UF: I exhibit in both, traditional as well as online galleries.

MT: How much do you rely on social networking sites such as Facebook to attract new viewers?

UF: I have not explored those sufficiently but plan to look into this in the future.

MT: How long have you been painting digitally?

UF: It's been 15 years.

Jeri Holt Email Interview By Michelle Tavano November 14, 2010

Michelle Tavano: Part of my research involves the digital painting audience and how viewing digital painting differs from viewing traditional painting. How do you prefer your paintings to be viewed, in print or strictly as a digital image?

Jeri Holt: I think my latest post on my blog says it all: "Digital Artists are also Digital Printmakers - I sit and watch my prints as they emerge from the printer. It is probably a waste of time, but I'm mesmerized as the image that I've spent hours, day, even weeks working on in imaging and painting programs is finally born. It isn't real until it is rolled out of the printer. I watch as the image inches out, making judgments as it appears. This is the test – is it good or not? Is it what I wanted it to be?

A digital artist isn't complete until their image is printed and many digital artists, like me, feel that the ability to print a true representation of the vision we see on the screen is as much an art form as the creation of the image itself. They work in tandem to produce a single piece. One isn't complete without the other."

Since my background is in sculpture and painting, I want my art to be in the "real world". That doesn't mean that I don't enjoy creating in the virtual world because it has opened up all kinds of new possibilities and opportunities for experimentation. However I want to expand it from just a computer work and create a print that can reflect my feelings when I created it. I can print it on various surfaces and create truly unique custom substrates and expand the creativity.

MT: You use Facebook and your personal website as a way to present your digital paintings online, which I have spent a considerable amount of time viewing. Since the digital painting can be viewed on a personal computer it gives the viewer the ability to resize the image. How much consideration do you give this when painting digitally?

JH: I don't plan my images for web display. As a web designer, I know that once I post an image, I haven't much control of how it appears on computers. Color and size can certainly be changed. I just work to post the smallest amount of information in the file so that I can try to protect my copyright. I know people will steal the image and resize it, but I can't control everything.

On the other side, I am often resizing and recropping my images so that one print may not be the same as the next one. I have several images that I sell in two different proportions

(semi-panoramic or rectangle). People pick and buy the one they like. My only concern when creating the image is the printing of the image and creation of a physical work

MT: Who do you think the digital painting audience consists of ? I feel it is made up of individuals that are digital artists, but am having some trouble supporting this theory.

JH: In the online world, I'd say that it is other digital artists. Most of us talking about how to sell it, trying to network, and find collectors. The people on Facebook that follow me are other artists with only a few collectors.

The people who buy my work are not digital artists but collectors of all kinds of art. People to whom my images speak. I use my online presence as a portfolio. I'll have people come to me with printouts from my site and want to look at the actual art. People usually don't buy art unless the see it for "real". I feel that digital art that stays digital won't sell to a range of collectors. It's display options are limited and the appeal is restrictive. I also feel that my art shouldn't be classified as digital art which has many preconceived and mostly wrong connotations. My collectors look at it as fine art. The tools that I use to create it doesn't define it.

MT: One of the areas I am focusing on in my research pertains to the digital aesthetic and the artist's ability to convey a narrative beyond the visual engaging the viewer in aesthetic sensibility at the moment of perception. What are your thoughts on this subject?

JH: A friend of mine who hauled off several of my test prints to frame says that the test of art is that you can look at it for the rest of your life and never get tired of it. I want to create an image that a viewer can look at and see depth and movement that speaks to their memories and/or imagination. Even my most abstract images, pull the viewer into the image itself.

You ask about the "digital aesthetic". I think the human element is the most important part of the art. The human, me, as the creator and the human who is the viewer. Without the human element art can't exist. By treating digital art as something outside of the human experience, it is being reduced to a mechanical process without a soul. Machines, technology, etc. all are ultimately created by human beings for human beings.

Looking at digital art as being some strange new creation is reducing it. Art is and has always been an expression of humanity. Whether using a stick on a cave wall or a high tech graphics card, it is still art. I find this lack of humanity in a lot of fractal and photo manipulation that I see on the web. They run a script through a fractal program or apply a filter through Photoshop and produce an image that lacks the humanity to hold a viewer past that "isn't it pretty" stage. I do use fractals and photographs within my paintings but never without human intervention and interaction. Morning Sunrise, for example, has a fractal running through the middle of the painting. It creates the horizon.

I think that digital tools gives me much more range - I can create depth and motion to a greater extent than when I was using "real media". Collaging layers upon layers gives me the tools to create involved and involving art. I have an image called Fog Rollin' In which is on Facebook but a better image of it is in the slide show on my website's homepage. It is very difficult to print, but I had one at my last art festival this fall. A man stood in front of it for some time and finally said, "It's beautiful and I can't stop looking at it, but it scares the hell out of me." I don't know what memories this image was triggering in him, but it definitely created a powerful relationship. It is also one that my friend has framed for her house.

The following is from JD Jarvis in his essay on Digital Aesthetic online at: http://www.dpandi.com/essays/jarvis2.html

If you haven't found JD in your research, you should. His comments pretty much match my thoughts and experiences creating digital art.

"Within the digital aesthetic, filters and fractal generators designed to perform algorithmic image distortions or to apply pixels in specified patterns provide the sort of random actions that produce certain controllable and, yet, unpredictable results. By exploring and piling action upon action the digital system itself can present unexpected and beautiful results. As with splattered paint the resulting forms can suggest, to the artist's imagination, meaning; and even indicate further, more directed, additions to the developing composition. As the artist works back and forth between steering the process, then relinquishing control to the caprices of the tools and materials; a symbiotic dance between the maker and what is being made is formed and nurtured. This visual jam session gives rise to imagery that the artist could not have imagined without the spontaneous interface between the psyche, the artist's hand and the work as it evolves in the moment.

Digital technology greatly facilitates and expands upon this bond between human artist and image generating processes due mainly to the speed with which the technology can respond and show the results of, what a moment ago, was only contained in the mind. Making digital art in this fashion is very much like having a conversation with something infinitely deep and yet intimately personal. We now have a tool that works as fast as our imagination."

James Faure Walker Email Interview By Michelle Tavano December 7, 2010

Michelle Tavano: My biggest challenge seems to be how to apply new media theorists theories such as Manovich's principles of new media to digital painting. I have read JD Jarvis' article which are in line with my philosophy on digital painting. When I first began my research, I could not grasp how the artist was able to connect to their art as one would in traditional art. As an artist myself, I felt a strong disconnect between my hand, my soul and the computer. So, I decided to give digital painting a try and now have a better understanding as my hand was able to paint with a mouse. However, there does not seem to be much written on the topic of digital painting, its aesthetic and its future as there is on cinema, film or virtual reality. Are there any new media theorists that you consider to be relevant to digital painting?

James Faure Walker: BTW I have known Lev Manovich a while.. and he started out as a painter in NYC after Moscow. I have some interest in philosophy etc (did my postgrad on that in the early seventies), but over the years, and having written art criticism, and edited it a lot... I do not see why we need to consult with that department.. any more than they need to take advice about painting before writing their treatises on this or that. I feel I am on the same slightly irreverent side as Lev Manovich... who said recently he wished he hadn't used that title. i.e. there really isn't some bedrock of certainty down there, some universal explanatory theory...

I have a problem with a phrase like 'traditional art'. Whose tradition? Can there be non-traditional art? Increasingly I do not see any schism between 'digital' painting and any other kind of painting, or drawing. There have always been disputes about technical methods, especially a relatively new way of working.... but I accept that it causes some confusion and probably the low quality is an issue, low quality as art that is. I sometimes think the impenetrable philosophising you can come across is just a defence mechanism... otherwise you might just notice there wasn't much going on visually except for a few cliches. But I am sure I fall jnto that trap too. Oh dear.. making to complex pictures etc. And pretentious.

I have read some new media theorists but cannot recall being particularly swayed one way or the other. I am preoccupied with the drawing books of the 1920's, which are refreshingly dogmatic and bad-tempered - eg about the use of rulers, or what was called 'the stump' for tonal drawing - so I am not really in the swim of new new media stuff... apart from doing my own work every day.

BTW I have never really used a mouse... always a drawing tablet, and regular drawing and painting gear, brushes etc.

MT: I am focusing on digital painters that I feel have transcended the technology. What digital painters do you consider have transcended the technology?

JFW: Hard to answer that... I am a close friend of Roman Verostko, but mostly relate to regular painting, past and present. Rogier Van der Veyden... Picasso... Tapies... you name it.

MT: One of the areas I am focusing on in my research pertains to the digital aesthetic and the artist's ability to convey a narrative beyond the visual engaging the viewer in aesthetic sensibility at the moment of perception. What are your thoughts on this subject?

JFW: Nothing much to say about that. If I can engage 'the viewer' for a few seconds on the visual side I feel I am doing OK. I really don't have anything significant or deep to say.

Last year I did a commission for the South African World Cup.. a truly superficial undertaking, but worth doing. I'll put the reference at the bottom. No one there was bothered whether the picture was digital or not.

MT: Heidegger writes about how the artwork employs a medium in the tools that are used to create it. How important do you feel it is label a painting as digital or traditional or is a painting just a painting?

JFW: Well of course that is a difficult question - BTW hasn't there been a lot of doubt around Heideger and his Nazi involvement? I have been giving some talks recently (mostly about 1920's how to draw books, and their technological issues etc,) and one sequence of photos shows one of my picture exhibited at Siggraph, a painting show, cropped in a digital art book, and treated with reverence in a museum (V and A). It shows what one might expect... an image perceived as digital is not accorded the same respect as when it is described as a painting.

Can one change that? Possibly, but only by doing top-notch work that doesn't plead it's special cos it's digital.

BTW Why all the references to 1930's philosophers... they weren't at all involved with the art of that time? Generally, theorists can't draw or paint for toffee. Are we supposed to invite them into our studios to offer guidance before we start? Have they written some how-to books?

Basically, best not to worry too much about labels. But it is a problem....

JD Jarvis Email Interview By Michelle Tavano December 2010

Michelle Tavano: My biggest challenge seems to be how to apply new media theorists theories such as Manovich's principles of new media to digital painting. However, there does not seem to be much written on the topic of digital painting, its aesthetic and its future as there is on cinema, film or virtual reality. I have read all of your articles which are in line with my philosophy on digital painting. I feel it does not matter what tools are used to create a painting, it's the final image's aesthetic that is important. Are there any media theorists' theories that you would apply to digital painting and if none are relevant, why not?

JD Jarvis: If you possibly can, give only cursory attention to the writings concerning "New Media". You can go much deeper and beyond that. Painting digitally employs the same aesthetics of color, line, form, etc, that traditional painting must employ. What going digital offers to the artist is a new surface. Think in terms of this new surface... what is it? What does this surface present to the viewer? It seems to me that rather than talk about "numerical representation" a discussion of the importance for simulation, mimicry and replication within this new surface would be more engaging and would get us toward deeper considerations of a culture that is likely to develop around these principals. "Surface" in this context can be thought of the screen, the control surfaces of Wacom and mouse, the binary surfaces buried inside your computer, the web distributed viewing surface, the surface of a digital print... In short make the discussion be about "new painting," or "the new painting surface" and not "new media."

I found reading Walter Benjamin's "The Work of Art in the Age of Mechanical Reproduction" to be more stimulating reading than any New Media material. The difference being that I got more from seeing how Benjamin's guesses about where we were headed (how those guess were correct and where they fell short) to be much more instructive than the current speculation about "post-ism." I have read a lot of science fiction and you might as well read that as to try to nourish yourself on the thin soup of New Media aesthetics. You might consider wading through "Simulacra and Simulation" by Jean Baudrillard, written at a time just before the birth of digital, I would hope that you would find his stylistic approach somewhat liberating and his thoughts provocative. Rauschenberg's thoughts, particularly concerning his "Combines," might also inspire you as they did me.

MT: When I first began my research, I could not grasp how the artist was able to connect to their art as one would in traditional art. As an artist myself, I felt a strong disconnect between my hand, my soul and the computer. So, I decided to give digital painting a try and now have a better understanding as my hand was able to paint with a mouse. I have always worked in digital media – Adobe suite in graphic and web design and photography, but never considered painting as part of the digital realm until I began researching my thesis. What are your thoughts on the connection between the artist and the digital technology?

JDJ: Did you read that piece I sent you the link to about "Digital Divinations" posted on Scott Ligons' blog? Did you read the first and last chapters in "Going Digital: the Practice and Vision of Digital Artists" (ISBN #: 1-59200-918-2)? I have already written extensively about this and you can read it at your leisure. The artist can go as deep as they dare. I experience a cybernetic connection to a cooperative subconscious that is both mine and the computer's. We are becoming cyborgs is that "connection" enough for you :-) There is another "surface" for you... the vast empty creative space inside your hard drive that is constantly reflecting back to you your own mind. Thesis title: "The Mirror Inside the Machine: the New and Multiple Surfaces of Digital Painting" (If you don't write it, maybe I will.)

MT: I am focusing on digital painters that I feel have transcended the technology. What digital painters do you consider have transcended the technology?

JDJ: Look again to the artists I featured in the first chapter of "Going Digital," as well as, the group of artists that I and my co-author Joe Nalven feature in the book. I must say that I feel the word "transcend" is a bit off. I know what you mean... art that goes beyond diddling with the tools and makes a strongly personal statement; but, we can not transcend what contains us. The fish can not leave the bowl. Can we make "digital art" without a computer? If we could I would say that we have a new visual aesthetic; but I suspect that what we have are new tools and perhaps a new way of seeing and looking at art. Would this new sight be a new aesthetic? Of course, we can move outside the tools and make an oil painting of art that we developed and sketched in the computer; but that does not seem transcendent in and of itself. Rather than "transcend" I attempt to absorb and be absorbed by the computer... to become the ghost in the machine. I proceed as required by the technology but the technology can do only what I tell it to do through our cybernetic connections. We are codependent, interpenetrating consciousnesses one binary, the other biological... one human, the other machine. Do you see yourself being able to write about this in your thesis?

MT: Who do you think the digital painting audience consists of ? I feel it is made up of individuals that are digital artists, but am having some trouble supporting this theory.

JDJ: Look to the concept of "democratization," that is happening in art, music, literature, journalism, business... etc. because of proliferation of digital computers. We are in a

period in which everyone is/can be a digital painter. This is democratization and it does not produce a lot of good work. But, it does teach people what goes into good digital work. The language of digital paintings and the necessary learning curve that is required for a critical mass of people to be able to identify, evaluate and appreciate digital art is still, as of yet being formed. Without this critical base there will be no future audience of digital painting. The emphasis is now on film, video and internet because that is as far as most people imaginations can go with what appears to be an extension of a mass media distribution screen. I learned from my early experiments in video art (back in the day when I was writing my thesis) that people have certain expectations from video screens. People were not ready, in those days, for abstractions coming from their story-telling devices. Moving pictures without the prerequisite narrative were as un-recognizable as Rauschenberg's Combines had been. The public had no critical base from which to judge or even enjoy the work. Information, in this analogy, is the "new media" equivalent to narrative in video art. In the case of "New Media" we have what is basically "Conceptual Art" that requires in a deep formal sense a preponderance of text and verbiage to explain the art in the work. Without this documentation and verbiage the art often can not be conveyed and hence, in my opinion, is rather weak.

In closing, Michele, let me assure you that the ultimate outcome of the democratization and dematerialization of art through the introduction of digital tools has yet to be determined. There is nothing "post-anything" about this. The need to think clearly and not be in such a rush to get to the put-down and to move to the next big thing is paramount. This is why your thesis can be important in helping to formulate that critical aesthetic base needed to help move digital painting forward. Let me know if I can be of any further help in getting you there. I trust that you have people on your thesis committee who are not afraid to learn something from you. You must be very careful and cagey in this respect. Above all, try to get some sense of which way that wind is blowing in this regard and sail with it. Your prime effort should be, at this point, to get to your educational goal. Even if that means writing what they want to hear. So I simultaneously charge you to follow your heart and release you from any responsibility if you find you can not.

MT: What incredible insight and feedback! Thank you so much. You have given me much to think about regarding what I will argue in my thesis. It is refreshing to communicate with someone who understands the demands of academia. It is true, I am in a position where I need to satisfy my thesis committee, which demands that I pick a theorist or theory and apply it to digital painting. This is not an easy task. The support I have received from you and others I have interviewed (including James Faure Walker, Ursula Freer, Cynthia Beth Rubin) has been amazing. They each seem to feel my topic is worthy of further research, and it has inspired me to take my research a step further (not sure whether it will be an online magazine or a book) once I complete my thesis.

I understand your confusion about my working title. I am conflicted, in that, I believe that, as you say, without numerical representation, for example, digital painting cannot

exist. But, I do not believe 100% that the aesthetic lies within the technology. The digital tools are simply another tool to paint with. But, Manovich seems to feel that they contribute a great deal to the aesthetic of the image. Especially in his article "Post-Media Aesthetics". Your insight into thinking of digital as offering a new surface is great. I will use that info if you do not mind. Your title suggestion is one I will certainly put in my top choices. If I choose to use it, I will let you know, and of course include you in the acknowledgements page of my thesis. I trust this is okay with you.

JDJ: Yes... OK, indeed. I believe you can take the "surface" route (remember it is a mutifaceted surface) and use "New Media" theories to describe that surface. But, this does not get you any closer to describing a visual aesthetic that would come to grips with what "digital painting" ought to look like. In that regard I do not believe you can overlook the principles of simulation, mimicry, facsimile and illusion. If you are searching for a unified visual aesthetic for digital painting it will have to also tackle the flat technological patina that is part of the various modes for visualizing, displaying and materializing the work. The Art that is made digitally is separate from (and yet totally dependent on) the modes in which it is display. The Photograph plays an important role in all this, as well.

MT: I have read Benjamin and Baudrillard. I am familiar with Rauschenberg also, but will need to take another look. I have also been very inspired by Kandinsky's "The Spiritual in Art" and many of his other works concerning the soul of the artist. I have also read the article Digital Divination that you sent me, but have not had the opportunity yet to read Ligon's book. I will.

JDJ: Scott has a book out called "Digital Art Revolution" the book I was referring to is the one I wrote entitled "Going Digital...." If you have not yet seen a copy of it I suggest you try to get your hands on one since it explains my point of view better than anything else I have written, so far.

MT: You are right.. transcend is the wrong word. It is the connection between the artist and the tools that is important. The ability for the artist to paint with the tools, but I guess what I also mean is, once the painting is complete, the image does not immediately let the viewer know it is a digital painting, no more so, than an oil painting or acrylic painting does. When a viewer looks at a painting, it should not matter what tools were used to paint, but rather the final result.

JDJ: That all depends on how the artwork is presented to you. In the form of a print whether that is on canvas or paper, there is little doubt that the image before you was created using technological means. There are some who paint or collage onto the digital

print surface and that makes it a bit more muddy. When you see paintings presented on an electronic screen, however, the technological patina levels out all comers and it is very hard to tell a digital painting from some other kind of 2D piece that has been scanned of photographed into a digital form. I agree that how the image is made should not matter, but where it seems to matter is in the marketing of the art. Don't forget there are still some who look upon acrylics with disdain and still others that will argue that there is no place in Fine Art for photography. I am afraid that those who hold digital art and its apparent lack of materiality in high disregard are even in greater numbers.

MT: I am sure I will have more questions and comments as I reread your feedback. Again, the information you have provided has been incredible. I look forward to further conversations with you.

JDJ: I am attaching another essay I wrote fairly recently that covers much of the ground we have been discussing. And, a digital painting of mine that you may enjoy (or it may scare the be-jezzus out of you). Either way it sort of sums up my digital painting aesthetic that can best be described as "abstract trompe l'oeil" a mixture of surrealism/abstraction/photography/collage (however I prefer the film industry term "composting" to "collage.") I hope you enjoy both essay and imagery.

Holger Lippmann Email Interview By Michelle Tavano November 5, 2010

Michelle Tavano: Part of my research involves the digital painting audience and how viewing digital painting differs from viewing traditional painting. How do you prefer your paintings to be viewed, in print or strictly as a digital image?

Holger Lippmann: well, i have to admit, while reading this question i notice that my very strong interest on having my works some how toucheable, on canvas or something (*1)..., that this is outdated at least by now. by myself i go less and less in galleries but surf the web excessively for art. and i also notice the same be done with my work... so i could talk about some ideal case, but reality goes different ways. i'm pretty aware of the fact that my works are much more be seen on the www in blogs and so on... but ultimately, designing a show with pieces to carry around while setting up the installation, gettign it all done with sweat and exhaustion, to be finally happy about it, ...is something very great and not at all to be replaced by the www activities.

(1*) this also derives very much from my traditional background and the circle of friends who come and visit me in my studio. all my painter friends and also the gallery guys need to see material stuff. when we would sit in front of my computer screen, they mostly are just quiet, except when showing animations...;)

i actually don't have a preferrence. since i upload to websites and flickr i try to do it as larger formats, if there's something what i hate, than these are this very small art reproduction on the web...
i think having both is great.

MT: You use Flickr as a way to present your digital paintings online, which I have spent a considerable amount of time viewing. Since the digital painting can be viewed on a personal computer it gives the viewer the ability to resize the image. How much consideration do you give this when painting digitally?

HL: to see my works on large screens should be fun, i don't think much about the copyright thing at this moment, how others would sometimes do.

MT: .Who do you think the digital painting audience consists of ? I feel it is made up of individuals that are digital artists, but am having some trouble supporting this theory.

HL: well, since i see myself as visual- or fine artist, i don't distinquish first hand between art and digital art.

there are anyway certain contexts a bit mixed up; since the digital photography, many talk about "digital art" or "digital image", meaning either; digitally made artistic photography, or digitally manipulated photography... now it's even much more fractured; there is digital collage, 3d rendering, generative and or all together combined, as i did bymyself before i concentrated more on programming directly generative algorithms. to answer your question; i notice that the audience is half fans of computer art, mostly being byself somehow occupied with it and half art lovers/artists/dealers/... out of the traditional art szene. ..going to openings in berlin, you'd meet and often they'd know my work from the www

MT: One of the areas I am focusing on in my research pertains to the digital aesthetic and the artist's ability to convey a narrative beyond the visual engaging the viewer in aesthetic sensibility at the moment of perception. What are your thoughts on this subject?

HL: there's much to talk about this...

i start at the beginning;)

my parents had a private carpeter business. so while i grew up i had much opportunities to work with material. i did many things already pretty young. pretty early i started scuplting... all together with my art study i did so many different techniques, all one could thingk of; working in sandstone, marble, fonding bronce, doing polyester, metal, ..., all sorts of print and photographytechnique and so on. i was always interested to gauge the most widely varied and most technology advanced abilities for art. even before pc's became a common piece of furniture, i had access to big sun and ibm computers at universities where i made my first expermenting...

so because of this kind of continuous changing technique i don't see the "digital art" thing as so different.

basically - when one makes a composition within a square - it does not matter so much how it's made.

ok. wrong! the digital world changes everything and is not at all compareable with any change before, ...maybe the invention of the wheel;)

and

digitally generated art changes everything too

but

why and what image i produce, that does not - in the first case - have much to do with my computer, or does it?

why and what image i produce, that does not - in the first case - have much to do with my computer, or does it?

no it does not really.

when i look back at what i did, i see it like a mirror of my life. i can see my quiet sensitive character when i started being concious about my reflections of my life with 15

and so. van gogh was my secret fomula. i had a paint studio in the attic. i painted casual things; still life, self portrait, and started doing surrealistic compositions. but all was somehow very natural, far away from philosophy...

but this came next; i guess with 17-20 it started and became more "being on the search", philosophical and religious ideas cought my attention. i started reading and some books influenced me much at that age, particularly hermann hess, i guess i read everything of him. but also shopenhauer and nietzsche belonged to my favorits.

when i started studying at the art akademy dresden i was already 24 but felt still very young and unknown, so i couldn't even talk about a certain style. one of my professors once sayd; he sees in most of my work something happy/bright. i couldn't imagine this time. punk was in and it partly caught me too. it was not good to be just bright..., but i didn't much care while working

after the wall came down i had another study at the art academy stuttgart (former west germany) and later was a year in paris.

for me a pretty hard time began. the east was very natural and simple, the capitalistic hardness of the west was a shock for me. shure it was great to get free and i didn't like the eastern regime at all, but after all political things the east was simply behind so much..., when i go now to the very hidden places on earth and i sometimes see people so naiv and extremely friendly and without any calculating thought, i thingk wow, you have been like this!

ok, a pretty hard time came and my art turned ironically till cynically. i lived 2 years in new yourk city and when i came back to dresden in 1994 i was so crashed. everything was broken. my relationship to my gilfriend broke off, the connections to the gallery and to friends, ..my ego had managed to destroy all.

and at this point, i was kind of homeless, something incredible happened; i suddenly woke up out of some strange ego dream and life felt so happy and light. i slowly recognized that it was me who created the problem the whole time. and so on and so on... it was an immense change in my life. since that time i didn't have something like depression anymore or so..., i discovered that my conditioned idea of myself - the ego - was not at all me, that i was much deeper and basically very centerd,... that all might sound completely stupid, sorry, but this story really is the only explenation for what i am doing right now;

i admire life, live together with my young family in beautiful nature. if there is something like subject in my art, it's very the same like when i was 14, but now more concious, the simple things in life... van gogh is again and still my very very special pivot.

Joseph Nechvatal Email Interview By Michelle Tavano February 8, 2010

Michelle Tavano: Your paintings are created by a robot via a computer virus, which influences the outcome of the image. How do you maintain a personal connection with your paintings as your hand is not holding the paintbrush used to create the brushstroke?

Joseph Nechvatal: My personal connection is maintained in the decisions and aesthetic choices I make.

MT: Your art is heavily influenced by the AIDS virus and its emotional connection/influence in your life. Do you feel that your paintings reflect how you envision the AIDS virus to look visually?

JN: No. The work is metaphoric. Not illustration. Using C++ framework, I and my programmer Stephane Sikora have brought my early computer virus project into the realm of artificial life(A-Life) (i.e. into a synthetic system that exhibits behaviors characteristic of natural living systems). With Computer Virus Project 2.0, elements of artificial life have bee introduced in that viruses are modeled to be automonomous agents living in/off the image.

The project simulates a population of active viruses functioning as an analogy of a viral biological system. Among the different techniques used here are models that result from embodied artificial intelligence and the paradigm of genetic programming.

MT: What is the one thing you would like your students to learn from you as an artist?

JN: My hope is that they learn to love art and love to learn about it and trust their urges about it.

MT: What artists have you been most influence by?

JN: Marcel Duchamp

MT: Do you feel that digital painting enables you to express yourself effectively as compared to traditional painting?

JN: My- yes. Today I think the logo representational paradigm is being replaced by the new one based dynamic systems, connectionism, situatedness, embodiedness, etc. – connectionism replacing congnitivism and symbolic models; emergentist, dynamic and evolutionary models eliminating reasoning on explicit representations and planning;

neuroscience eliminating cognitive processing; situatedness, reactivity, cultural constructivism eliminating general concepts, context independent abstractions, ideal-typical models. Emerging is a new "synthetic" paradigm: a paradigm that puts together, in a principled and non-eclectic way, cognition and emergence, information processing and self-organisation, reactivity and intentionality, situatedness and planning, etc.

MT: Should your art be exhibited in a traditional gallery or an online gallery? Which do you pefer? How and is the piece different in each gallery?

JN: My preference is to show the actual canvases in real space and light.

MT: What do you enjoy about working in digital painting as your primary medium?

JN: In my case, I was lead to programming through my involvement with art. I had a very minor interest in programming way back when I was in college (my brother was into it) and I even studied fortran there – but art was – and *is* – my first and last passion. I came hard to computers in general through the interest in ideology and power that I was researching in the 80s with my drawings and photo-mechanical blowups of the drawings.

Peter Mc Lane Email Interview By Michelle Tavano February, 2010

Michelle Tavano: Do you feel digital painting allows you to effectively express yourself as an artist? What technology do you use to paint digitally?

Peter Mc Lane: Today, I mix some own digital paintings with some parts of my own photographies. For me it's just a periode after my visit in NY. All my artworks are unique. After many many questions I chose the best way for me: one output on canvas and I sell a the same time the high resolution file on a DVD to apply on plasmas or LCD screen to get the plaisure of the virtual image. The screen being the naturel frame for a virtual creation but too difficult to sell as such. In my opinion and through my experience the people consider already that un artwork on a physical support is much more secure for the duration of an artwork. People are familiar with the virtual images in the cinema but as soon as you speak about paintings, people have a different judgement and ask for material and not virtual. I try to change that on my side but artlovers are stubborn.

The new technologies are just something new, just a new tool. Even if for me it becomes an old story now. It's impossible to forget the past in human creativity, it is so rich of talent and real talent! But today it's another matter!! such an evolution, it's simply a revolution. The change is as important nowadays with the computer that it was in the old times when the painters stopped to paint on the walls and adopted canvas as materiel to produce new pictures. What's Art ??? Dali had mixed his paintings with pictures and collages. Where is the problem? It is not a challenge to do the samething with the computer today, it depends only on the artist talent and creativity. As far as I'm concerned I prefer digital painting using only the stylus like a brush, the tablet and color palet, starting my own creation on a white screen which requires the same talent than before and the same imagination than before. That determines talent or not, knowing that this tool is out of limit. Your limits are only your owns. You can stop your work when you decide.

MT: What artists have influenced you most?

PM: My influence comes from the surrealists I think that's the best language for un artist. But it's much more difficult to sell, but this is not my problem. I do what I want and like I want. This is for me the best way of happiness!! and in conclusion: no it's not difficult for me to t decide to stop my work. I have the control.

APPENDIX B: ARTIST IMAGES

Joseph Nechvatal



Figure 5 Joseph Nechvatal, *Orgiastic abattoir*, 2003, computer-robotic assisted acrylic on canvas, 44" x 66". www.nechvatal.net

image used with artist's permission

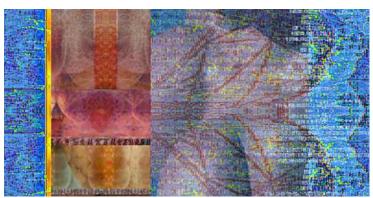


Figure 6 Joseph Nechvatal, *voluptuary droid décolletage*, 2001, computer-robotic assisted acrylic on canvas, 66" x 120". www.nechvatal.net

image used with artist's permission

Joseph Nechvatal

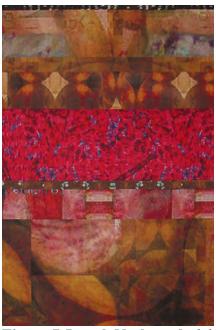


Figure 7 Joseph Nechvatal, debauched tissue exstasis, 2002, computer-robotic assisted acrylic on canvas, 77" x 51". www.nechvatal.net

image used with artist's permission



Figure 8 Joseph Nechvatal, hermapOrnOlOgy OvOid maxism 2002, computer-robotic assisted acrylic on canvas, 44" x 88.5". www.nechvatal.net

image used with artist's permission

Gerhard Mantz



Figure 5 Gerhard Mantz, Nachsichtige Vergesslichk, (Indulgent forgetfulness), 2006, Pigmented ink on canvas, 39.4" x 70.9" www.gerhard-mantz.de image used with artist's permission



Figure 6 Gerhard Mantz, Nach Einem Langen, After a long day, 2006, Pigmented ink on canvas, 39.4" x 86.6" www.gerhard-mantz.de image used with artist's permission

Gerhard Mantz



Figure 7 Gerhard Mantz, Kollektiver Aberglaube, Collective superstition, 2009, Pigmented ink on canvas, 39.4" x 70.9" www.gerhard-mantz.de image used with artist's permission



Figure 8 Gerhard Mantz, Abstossung Und Anziehung, Repulsion and attraction, 2009, Pigmented ink on canvas, 39.4" x 70.9" www.gerhard-mantz.de image used with artist's permission

Ursula Freer



Figure 9 Ursula Freer, Night Pond, n.d.,
Digital Painting, Web
available in printed form, sizes – 20"x9", 26"x12"
http://ursulafreer.com/index.php?image=003
image used with artist's permission



Figure 10 Ursula Freer, *Reef*, n.d., Digital Painting, Web, available in printed form, sizes – 9"x13", 12"x17", 15"x21" http://ursulafreer.com/index.php?image=0029 image used with artist's permission

Ursula Freer



Figure 11 Ursula Freer, *Bamboo*, n.d., Digital Painting, Web, available in printed form, sizes – 9"x12", 12"x16", 15"x20" http://ursulafreer.com/index.php?image=9921 image used with artist's permission



Figure 12 Ursula Freer, *Joyous Meadow*, n.d., Digital Painting, Web, available in printed form, sizes – 9"x14", 12"x1", 15"x23" http://ursulafreer.com/index.php?image=0022 image used with artist's permission

Holger Lippmann



Figure 13 Holger Lippmann, After the Rain, 2009, Digital Painting, Web, diasec, 180 x 136 cm, (70.8 in x 53.5 in), edition of 2 circulation series, landscapes, cycle "Painting with Processing" http://dam-berlin.de/Gallery-act-displayimage-album-41-pos-9.html image used with artist's permission



Figure 14 Holger Lippmann, Water Lily Pond, 2009, Digital Painting, Web, diasec, 180 x 136 cm, (70.8 in x 53.5 in), edition of 2 sine/cosine circulation, water pond series, cycle "Painting with Processing" http://dam-berlin.de/Gallery-act-displayimage-album-41-pos-8.html image used with artist's permission

Holger Lippmann



Figure 15 Holger Lippmann, *Corrosive Landscape*, 2009, Digital Painting, Web, ink on canvas, 180 x 136 cm (70.8 in x 53.5 in), edition of 2 Cycle "Painting with Processing" http://dam-berlin.de/Gallery-act-displayimage-album-41-pos-4.html image used with artist's permission

Jeri Holt



Figure 16 Jeri Holt, Good Morning Sunshine, 2010, Digital Panting, Web, www.withdigitaleyes.com image used with artist's permission



Figure 17 Jeri Holt, Fishing Sheds, 2010, Digital Painting, Web, www.withdigitaleyes.com image used with artist's permission

Jeri Holt



Figure 18 Jeri Holt, *Untitled*, 2010, Digital Painting, Web, www.withdigitaleyes.com image used with artist's permission



Figure 19 Jeri Holt, *Blueberry Burn*, 2010, Digital Painting, Web, www.withdigitaleyes.com image used with artist's permission

Peter Mc Lane



Figure 20 Peter McLane, Venice Night, 1995, digital painting, size varies.
www.peter-mclane.com
image used with artist's permission



Figure 21 Peter McLane, My Monet, 2000, digital painting, size varies. www.peter-mclane.com image used with artist's permission

Peter Mc Lane



Figure 22 Peter McLane, *Insouciance*, 2009, digital painting, size varies. www.peter-mclane.com image used with artist's permission

Michelle Tavano



Figure 23 Michelle Tavano, *Miss Mae*, 2010 Digital painting, size varies

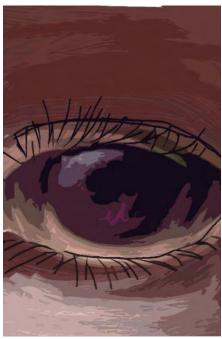


Figure 24 Michelle Tavano, *Eye*, 2010 Digital painting, size varies

Michelle Tavano



Figure 25 Michelle Tavano, "Peaceful Music", 2011 Digital painting, Illustration for *Biscuits, Balls & Bones,* A dog's search for happiness, size 8" x 8"



Figure 26 Michelle Tavano, *Orange & Gold*, 2010 Digital Painting, size varies

APPENDIX C – ARTIST PERMISSION STATEMENTS

Windows Live Hotmail Print Message 3/8/11.6:05 AM

Re: permission to use images - OK

Joseph Nechvatal (jnech@thing.net)
Fri 2/11/11 11:39 PM
michelle tavano (michelletavano@hotmail.com)

Yes OK

Please send me a copy.

On Feb 11, 2011, at 7:58 PM, michelle tavano wrote:

thank you for such a speedy response. I think I might need the "yes" in the body of the email for technical purposes.

thanks

From: jnech@thing.net

To: michelletavano@hotmail.com

Subject: Re: permission to use images - OK Date: Fri, 11 Feb 2011 19:23:22 -0500

On Feb 11, 2011, at 7:14 PM, michelle tavano wrote:

Hi Joseph,

My thesis is finally coming together and should be finished by May. It looks like I need permission from all artists whose images I would like to use in my thesis for publishing purposes. I am emailing to ask your permission to use the following images of your work in my thesis:

- 1. Orgiastic abattoir, 2003,
- 2. debauched tissue exstasis, 2002,
- 3. voluptuary droid décolletage, 2001,
- 4. hermapOrnOlOgy OvOid maxism 2002,

Best,

Michelle Tavano

Windows Live Hotmail Print Message 3/8/11 6:04 AM

Re: permission to use images in my thesis

Gerhard Mantz (mantz@gerhard-mantz.de) Sat 2/12/11 4:04 AM michelle tavano (michelletavano@hotmail.com)

Hi Michelle,

you got my permission. Send me a copy of your thesis once you have finished it.

Good luck., Gerhard Mantz

Helmstrasse 11 D-10827 Berlin Germany +49 30 7842618

http://www.gerhard-mantz.de

Am 12.02.2011 00:18, schrieb michelle tavano:

Hi Mr. Mantz

My thesis is finally coming together and should be finished by May. It looks like I need permission from all artists whose images I would like to use in my thesis for publishing purposes. I am emailing to ask your permission to use the following images of your work in my thesis:

- 1. Indulgent Forgetfulness
- 2. After a Long Day
- 3. Collective Superstition
- 4. Repulsion and attraction

Best, Michelle Windows Live Hotmail Print Message 3/8/11 6:05 AM

Re:

Ursula Freer (studio@ursulafreer.com)

Tue 2/22/11 9:43 PM

michelle tavano (michelletavano@hotmail.com)

Hi Michelle,

You can use any images you like. Did I give you this link? It also has some newer work, there are 8 pages, click on the thumb nail to enlarge it.

http://www.absolutearts.com/ursula/

Let me know if there's a problem.

Ursula

michelle tavano

Good Morning ...

As a companion to my thesis i am starting a blog on digital art and theory. I would like to feature you as an artist

on my blog along with a few images. I would use only the images you have already permitted me to use in my thesis.

But if there are others you would like featured I would be glad to include them. The intent of the blog is to

provide info on digital painting as the medium develops, along with my own articles on media theory. I hope the list

of artists featured will continue to grow to include digital artists working in any medium.

I look forward to hearing from you soon.

Best, Michelle From: Jeri (jeri@withdigitaleyes.com)

Sent: Sun 11/14/10 10:18 AM

To: 'Michelle Tavano' (michelletavano@hotmail.com)

Answers are below. You can use my images as long as they carry my copyright notice and you attribute them to me and reference my website. I would also like to receive a copy of your thesis.

Please let me know if you need any more information.

Jeri Holt

with Digital Eyes Studio

207.215.9620

http://withDigitalEyes.com

http://JeriHolt.com [blog]

From: Holger Lippmann (info@holgerlippmann.de)

Sent: Thu 11/11/10 6:29 AM

Michelle Tavano (michelletavano@hotmail.com)

hi michelle,

shure you can use these works in your paper.

these three especially are based on nature impressions, further developed on photo series. in processing i developed sort of an "painting machine", where i do with mouse and many keyboard actions a realtime process, it's a bit action painting like. out of many such results i later choose a few and do some minor rework by hand, in this case shifting/deleting/and-or adding some vectors in acrobat... all the best holger

--- Original Message ----From: Michelle Tavano To: Holger Lippmann

Sent: Wednesday, November 10, 2010 3:47 PM

Subject: permission to use images

Hi Holger,

I would like to include a few of your paintings in my research paper, Would you mind if I use the following images?

1. After the Rain

2. Water Lily Pond

3. Corrosive Landscape

Could you tell me a bit about these paintings, and where else I might be able to see your work using Processing?

Best. Michelle Windows Live Hotmail Print Message 3/8/11 6:04 AM

Re: permission to use images in my thesis

peter@peter-mclane.com (peter@peter-mclane.com)

Sat 2/12/11 11:19 AM

michelle tavano (michelletavano@hotmail.com)

Hi Michelle,

No problem. I give you authorization to use Venice, Venice night, My Monet, Insouciance and "Et Dieu Créa la Femme" you can find on my website. Concerning Insouciance I think that you have not the final image. So let me know if you need the picture as well as Et Dieu créa la femme. I'll send them immediately. Regards

Peter Mc Lane