

Submitter: John Anderson

Re: Artificial Intelligence Study Submission of Comments

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Introduction

I am a digital artist. I was once a photographer, humbly honored with an opportunity to study photographic art with some of the greats in Art Photography. I have been natively digital with my artwork since 2006. The term digital native loosely means “A person who grew up with the presence of digital technology or in the information age. Having grown up in IT's presence, digital natives are comfortable with and fluent in technology.”

The following auction of natively digital art by Sotheby's might be worth consideration when considering digital machine produced art. <https://www.sothbys.com/en/digital-catalogues/natively-digital-a-curated-nft-sale> Generative art produced by machines is nothing new and has indeed been with us since the dawn of the computer age in the early 1950s. Since this time a certain question has arose repeatedly concerning what the validity of work in an established art world that might appear biased towards art done by the artist hand.

From this perspective Generative AI is nothing new. Artist have been using information machines, in some cases creating, computer algorithms to generate their art. Indeed, some artist patch various algorithms together to create their images. There is a subtle use of technique and approach that is informed and creative from the artist's perspective even though the work is created by a machine and not the artist's hand. The computer is simply another tool, a paintbrush, if you prefer such analogy.

Even before the recent hype built up around new generative AI platforms such as Midjourney, programs existed long before them that used Generative Adversarial Networks (GAN) and Contrastive Language-Image Pre-Training (CLIP) like algorithms to produce their art. However, they did need at least some computer savvy to access these programs. In other cases, it was as easy as following a set of instruction prompts to submit variables, some which called for a particular color field or style of art/artists. It should be noted that the images produced hardly ever looked like the work of a particular artist. Style transfer is an old and well-established technique that has been used in digital art since 2010.

A Short History of Style Transfer

Style transfer, in the context of digital art, has been around for several years, with its roots tracing back to the early 2010s. The technique gained significant attention and popularity in the mid-2010s, largely due to advancements in deep learning and neural networks.

Here's a brief timeline of the development and adoption of style transfer in digital art:

Early Experiments (2010s): Researchers began experimenting with techniques to combine the content of one image with the artistic style of another. This was primarily done through traditional computer vision methods.

Deep Neural Networks (2010s): The breakthrough in style transfer came with the development and application of deep neural networks, particularly Convolutional Neural Networks (CNNs). CNNs proved highly effective in capturing the style and content of images, enabling more realistic and sophisticated transformations.

Artistic Style Transfer (2015): In 2015, a landmark paper titled "A Neural Algorithm of Artistic Style" by Gatys et al. was published. This paper introduced a neural network-based approach to style transfer, which laid the foundation for many subsequent developments in the field.

Popularization (2015-2016): Following the publication of the above paper, style transfer gained widespread attention in both the research and artistic communities. Various software tools and apps started to emerge, making style transfer accessible to a broader audience.

Applications in Digital Art (2010s): Digital artists and designers began to incorporate style transfer techniques into their workflows. This allowed for the creation of unique and visually striking digital art pieces that blend different artistic styles.

Commercial Tools (2010s): Companies and developers started offering commercial software and apps that simplify the style transfer process, making it more accessible to non-technical users.

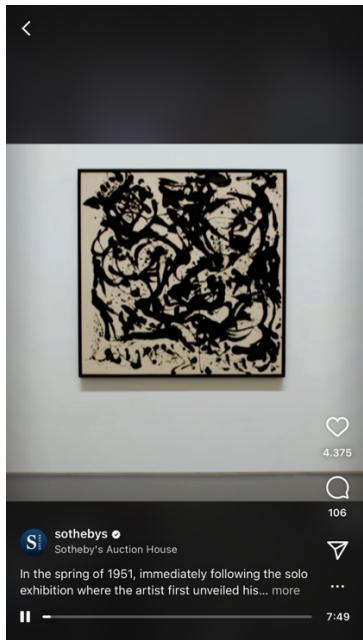
Ongoing Research and Improvements (2010s-Present): Style transfer techniques continue to evolve. Researchers are working on more advanced models, such as Generative Adversarial Networks (GANs), which can generate highly detailed and realistic artistic transformations.

Today, style transfer remains a vibrant and evolving field with applications not only in digital art but also in areas like photography, video editing, and augmented reality. Artists and researchers are continually exploring new possibilities and pushing the boundaries of what can be achieved through style transfer techniques.

[NFTs and the World of Art](#)

As this commission's study delves into comments for making informed decisions about AI generated art, it is perhaps worth noting that these artworks are already being documented and copyrighted using block chain technology. This technology makes it possible to prove providence for a unique digital work of art. NFT stands for Non-Fungible Token. Contrary to where a dollar can be exchanged for any other dollar as fungible token, NFTs are unique and not fungible. In this case a digital NFT work of art is unique and cannot be copied, i.e., it is copy and rights protected, both legally and contractually.

Art markets have always sold non fungible tokens. They are unique works of art, where their values are measured monetarily. It's the same game with the crypto art, only virtual.



This NFT sold for \$53 Million USD at Sotheby's - it was a Jackson Pollock painting. There is no difference between this art market and the crypto art market. Both are selling NFTs as an investment mechanism.

When the NFT bubble caught the public's imagination, much the same as generative ai has done today, people were asking if NFTs were indeed art. It seemed a bit silly and sophomoric to ask the question "What is Art?", at least in the 21st century. However, the question was being asked a few years back about NFTs and still is being put forth, now towards one form of digital, computer generated, art which is referred to as "AI' generated.

I think we need to stop and look at our hubris to even ask such a question. A good friend of mine, Daniel Ambrosi, once posed the question, "If an artist was able to manifest their artistic vision fully formed with a snap of their fingers, would that artwork have no value?".

I will be presenting here a paper by Ambrosis that shows that throughout history, the general public's reaction to work not crafted by the artist hand is to consider it less legitimate. However, this is attitude is ill-founded; history has repeatedly shown that the injection of new technologies into artistic expression has never, by itself, precluded the eventual acceptance and legitimization of new art forms.

I will also be presenting editorial interview work of artist who are natively digital in their art. Their comments to pre-arranged questions may surprise you. They will certainly inform you more about their digital art. The interview was framed from the point of view of artist producing NFTs, we could as easily substitute the phrase 'generative AI' where we read the word NFT. Finally, I will present an assessment of my artwork that deals with generative AI as opposed to the various other techniques of machine algorithms I have used in the past. I should note

that here, I coin a new definition for the word artist. Indeed, though the artist is still intricately involved with volumes of decisions in the creative process when working with a generative AIs such as Midjourney (It's not all about the prompt) and is very much still a creative in the process; I define another position as well where we have the artist as not only creator but also the artist as observer and curator/collaborator. The artist is the one conducting a unique discovery of art and presenting to the world as his "discoveries" and staked claims to the unique instance of work that he is sharing with the world.

NFTs: Is it Art (substitute Generative AI for NFT...)

"There is a reality — so subtle that it becomes more real than reality. That's what I'm trying to get down in photography... I have a vision of life and I try to find equivalents for it sometimes in the form of photographs". — Alfred Stieglitz

Is it Art? Is it a photograph? After nearly 200 years of photographic image making, it seems naive to ask such questions. Now days, with the boundaries of contemporary art spread across an array of media. Asking if something is art or a photograph seems ridiculous.

However, if we go back a few hundred years the camera was merely a painting device. From within that historical view we discover something that instructs today. In the early days of photography the question was what do we call an image not done by the artist's hand? Everyone knew that a photographer merely executed technical knowledge for a detailed record, better than could be done by a painter's hand. Making a photograph was simply following the laws of nature and letting light draw the image.

At the dawn of the twentieth century, presented with the question of art, some photographers took a few steps back. They had accomplished the aim of all painting from the late Renaissance up to the early nineteenth century. The camera obscura was a tool often used by painters of that time.

The answer in part to this question was pictorials in photography. Photographs by Steichen, Demachy, Stieglitz, Eugene, Cameron, Strand, Evans, Colburn, Kasebeir, are examples of pictorial images. Pictorials were evocative and mysterious images that stressed composition and a soft focus to allow for the play of visual imagination.

The next step in the art of photography came when Alfred Stieglitz began shooting his cloud series and he titled them "Songs of the Sky". Later, he replaced that title with the one "Equivalents". Stieglitz explored the possibility for photography to create art that was abstract, rather than illusionistic or descriptive settings and themes.

What we call a photograph and what it has become over the last two centuries is interesting. The first photograph was a photogram, drawn with light without a camera or lens. Today a photograph can be an image of the gamma ray distribution of the Milky Way. It can even be

something drawn with a certain kind of camera without light or a lens. With these 'synthetic' images the computer is the camera and there is no light or lens.

In some instances, new tools and materials are blurring the categorical lines of what we would historically define to be a photograph. Is it a photograph that is now displayed and viewed on a monitor rather than in print? Is it animated or does it evolve or move across the screen? Indeed, we have moved into the age where digital art works are "images" purchased for viewing on our iPads, Smart Phones and TVs, works that can be acquired now as unique NFTs. They are not, necessarily, physical works to be hung on a wall. We might call this new development of image making digitwork in the same spirit that Alfred Stieglitz invoked when he referred to the art of his pictorials as camerawork.

Within the context of Alfred Stieglitz's equivalents, art is a way of knowing, at a place where meaning is born. There is a certain process that occurs for all of us when we encounter a work of art, at a particular moment where we connect in a unique way, where a greater truth is revealed. The nature of art can be thought of as the entire composite of moments, moments that enfold and unfold in whole or holy movement.

This movement, interestingly, is observable through the relational information exchanged through a work of art, between creator and viewer. For an artwork to truly exist in a projected moment it must have at least: a creator, or conscious will from a higher dimensional order that issues the creation; and a viewer from that same order, to whom the creation must be shared. This mystery is partially explainable by the fact that life without others yields an isolated, lonely, and cold existence. Art can be thought of as a field with an ever-flowing exchange of discovery and meaning that enfolds and unfolds knowledge in meaningful relationships.

In the end, an artist's works may divulge more information about the viewers than they do the artist who creates them. And why not, if we consider the true process of imagination; of creating images to communicate truth. It doesn't matter what name or label we give to a work, but it does matter what function it serves. Is there meaning conveyed and new knowledge gained that brings the creator and viewer into a greater understanding of truth? That is the essential question, should we endeavour to understand it. The function of art is to communicate what eschews banality and excites the imagination; what motivates us to dig deeper and fly higher to gain truth.

Today when NFT artists work with various algorithms, filters, and visual modulators, they discover worlds that couldn't otherwise be seen. They begin to understand the process at work and how an image can be achieved. Today, they are exploring worlds (moments) that exist implicitly, but only manifest through a particular approach using a unique set of instruments. The abstracting and pictorial process becomes quite mysterious as images and various incarnated equivalents reveal themselves on a stage that speaks to worlds more real than reality. When that synthesis occurs, something happens that transcends the boundary of both viewer and creator, in which a greater truth is revealed — art's mysterious ministry.

The following editorials present select NFT artists who are pursuing and achieving that ministry. These are artists who have a vision of life and who try to find a representation of it in the form of digital works. You will find here a body of work unique in its ability to connect with a viewer in a mysterious way. They are digit works that merge with a viewer In abstract and pictorial ways, speaking to worlds more real than reality.

Editorials

Non Fungible Tokens (NFTs) have gone viral in the media and the public's imagination. Along with this viral explosion has come a hype inflated environment that is, perhaps rightfully, open to cynicism from the established art world. The hyped up NFT field is clouded by thousands wanting to sell digital works (good, mediocre and bad), thousands wanting to make a quick ETH in the exploding speculative world of NFTs and crypto currencies, celebrities and sports figures who have entered the fray, 3D animators with substantial technical resources and skills selling realistic and sometimes chicane (chic) items, giving the illusions of something virtual that is real (value for your money), along with crypto punks and edgy street artist who have long been in the space.

However, NFTs do offer a technical solution to a problem that the world of collectors and artists have long faced, that is, how to sell digital art that can be copied exactly and easily reproduced. They also offer artist a way of selling their work directly to collectors and interacting with them. There are established and emerging artists who are now able to produce digital works of art and sell them via NFTs. And there is a need for groups of artists to come together in order to help define what quality digital art works are and can be, to provide some clarity and answers to any cynicism. This exhibit of select artists provides some landing lights, a model for serious art collectors in the foggy world of NFTs.

To that end we have asked eight artists some key questions. These include how their approach to making art has changed, if any, by using digital tools. What is their approach and what motivates them in the making of digital art. What is the nature of their interaction with digital tools and the results of using them. What has been the result of interacting directly with their collectors. What validates their artwork and any thoughts regarding the acceptance of digital art by the current institutional and evolving purveyors of art. Each editorial here provides an overview of the artist's background and art. Their answers to our pre-arranged questions may surprise you. They will certainly inform you more about their art. From within the context of this exhibit's curatorial text, we are proud to present the following artists.

Sean Mick

Sean Mick's work has anything and everything to do with what we don't know about the universe, our place in it, and what we are. For him, if you think what you see, what you hear, and can touch is the limits of our experience... you're not even out of bed yet. Sean Mick's studio is in Miami, Florida. Instagram: @_seanmick Twitter @_seanmick

Matt Kane

Matt Kane designed his own custom software to leverage algorithms with his own human input. He builds paintings layer by layer, making design choices through how the algorithms he has written should interact. He communicates in colour and pattern in ways long understood but which were too complex or time consuming for his hand and materials to manifest physically, with traditional methods. Matt is interested in exploring historical aesthetics with code; trying to do with geometry what the great painters did with oils.

Daniel Ambrosi

daniel.ambrosi@dreamscapes.ai is recognized as one of the founding creators of the emerging AI art movement and is noted for his thematic NFT collections (see <http://dreamscapes.ai>). He combines computational photography with artificial intelligence to create exquisitely detailed artworks that move people visually, viscerally, and cognitively. His tokenized art collections offer tiered pricing and edition sizes, from unique centerpieces that unlock high value add-ons to small, limited editions.

Anne Spalter

Anne Spalter is a digital mixed media artist with work in the permanent collections of the V&A Museum, the Albright-Knox, the RISD Museum, The Progressive Collection, and others. With degrees in mathematics and painting, her influences are as diverse as Buddhist art, Jungian archetypes, and Surrealism. She is known for large-scale public works such as her MTA Arts 52-screen installation in the Fulton St subway in NYC in 2016. (tranquilitybase7 on Discord)

Burst_

@burst_ is an anonymous cryptoartist with an emphasis on post-neoexpressionism and digital art. He creates futuristic-hybrid-organic artworks in a digital as well as a physical form. These are mixed media artworks which are supported by video, animation, digital media and actual painting. He often plays with motives which are repeating themselves, as a sort of code. Transformative processes of the human psyche in a digital age constitute an important focal point of his work.

Nate Mohler

As a media artist and designer, Mohler is intrigued with the fusion of conceptual art and technology with unconventional space and sound. His work focuses on eliciting action and question through digital mediums such as projection mapping, immersive installations, sculpture and video art. Mohler treats each project as an opportunity to evoke emotion, challenge thought, or support social change. His series on SuperRare explores the mind of the machine and Ai to create video paintings.

Richard Garret

Richard Garet is an artist interested in the evolution and the experience of art that has integrated into the digital file, transposing the medium's own natural distinct and significant constructs while also imposing its own virtual experiential condition. This condition articulates a realm of aesthetics unequivocally glorifying the apprehension of the screen's luminous emission, the sight through evolving technologies, and the ethereal surface of the screen ultimately merging all mediums.

James Fox

James Fox is a macro photographer who invites viewers into small, beautiful places with vivid and emotional abstract photography. James specializes in using flowing pigments to create intricate and atmospheric pieces that the viewer may immerse themselves in and reflect on the art and beauty of small things.

The Interviews

Sean Mick

Sean Mick's work represents subjects, situations, and emotions using a mix of hard edge painting, surrealism, abstract realism and geometric abstraction. Thematically he is drawn to the subconscious and how it is wholly accessible by involuntary actions of sleep, intuition, and latent recall. Sean looks to capture an observation through geometric constructs, interpretive motifs, and color harmonies. Each composition is drawn from the immaterial and intangible by way of what we can't see, but feel, with the intent of being equitable as to who, or what, they are.

Sean's work includes relationships that are composites of many biomorphic shapes that represent relationships between people, nature and our world. Often complicated and of fluctuating structure, the work deviates from a singular geometric pattern and into a more abstract form to represent the undulating fluidities of bonds we create with everything around us, conscious or not.

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Sean, thank you for being here. In the past you have worked as a painter using a variety of painting media. In your Manifestation series you focused on the language of line, color and shape all within the confines of the the panel itself. With these organic panels you aim to evoke the omnipresence of our collective conditions, thoughts, and attitudes free of any barrier. You have referenced how other painters such as Frank Stella, Ellsworth Kelly and Jeremy Moon worked to reform the compositional plane and created shaped canvases. You look to these techniques less about abstracting the physical medium but more as a consideration to bring about the sculptural in a two-dimensional object.

Recently you moved into digital art and the marketspace of NFTs. Here you provide inputs into an AI interface that further informs a javascript animation you developed. The results are quite striking. In your early work you acknowledge what other artists have done in the past. I don't know if it is intentional, but when I look at your works on SuperRare and elsewhere, I'm reminded of the works of Giuseppe Archimboldo, Munch's 'Howler' in 'The Sleeper' as well as the Dutch Still Life painters in your Flowers. And of course, there is a strong sense of surrealism.

How does your earlier work, i.e., the non-digital art differ from the work you now producing?

The difference is night and day. Digital art, the crypto art movement, and the medium itself has pushed what I'm doing beyond the jumping off point of adapting my geometric work into an NFT and pushed it into an approach about incorporating the missing element of time in my physical art practice. The thought process before I do a piece is always 'how will it move'? Whereas paintings are still and timeless this element of motion is what began an organic shift in style of my work in the genre as I began working in it. At first it was animated build ups using familiar geometric forms from my past work. That led to a simplified use of biomorphic shapes to tell a story but incorporated scripting and looping to form an endless undulating motion within the scene which led to my current style of using an aggressive use of motion to break down imagery into a somewhat psychedelic depiction of collages and subjects. All of them are just beginning to coalesce together in a new body of work I'm doing now

Please tell me some things about your approach to making digital art as well as what motivates you and captures your attention or imagination. How do these interact and relate to each other?

I read a lot about consciousness and how quantum mechanics are being studied to explain our reality. I'm one of those types that wants to know what our experience is here and how science is challenging what we perceive and assume may be much more influenced and entangled in a universal sense. Mystic art always played into this underpinning of an all encompassing energy that permeates everything and that influenced my POV in physical art as well as digital. I came to think of emotions, intangible elements of our existence, as manifestations that had some sort of physicality within a different mind state. That distilled into what my NFT work approaches whereas recognizable elements within a composition are abstracted to hint that what we see is only one facet of what is happening when looked at it through a metaphysical or quantum lens.

Yes, one does get that sense when looking at your work. Sometimes when looking at facial features, one can wonder if it is an eye or a nose or something else, e.g., what is it that is appearing to be a pupil, what is behind or beyond it... Is there an element of AI influence there? Does your initial approach end up evolving or going a different direction that was influenced by the use of digital AI technology?

I have a process approach that's fairly concrete but what I feed into it is not. The imagery I use a starting point is chewed up by an AI pass and then built out from there. When I feel something

is happening I take it through my other processes and see where it lands. So much of digital art has this element of absolute control. Sliders, scripting, values, modifiers, formulas, key frames and any other values that can be used to control the output is fantastic but I look for happy accidents to nudge the work along.

When you are working with digital processes such as algorithms, filters, visual modulators and/or AI, is there a discovery process that is somewhat consistent for you in that process?

Absolutely. It's all about using these controls to not only push my point of view in different directions but have these values reveal something unexpected.

I see, perhaps a synchronicity sort of thing from the information side of the technology.

No matter what the collaboration, all creative work seems to possess some sort of life of its own.

Interesting, Sean. What would you say has been the audience response Vs the critics response to your art?

Both have been positive and it's sort of crazy. A lot of this response is completely due to the platform of being a native digital medium. The intersection of the DAPP galleries and social networks allow for so much more feedback than the traditional art world. It's like you never want to go back to working in a vacuum, in a sense. I'm always overwhelmed that with all the imagery we take in a day, someone takes time to write about the work. I appreciate feedback, positive or otherwise.

What, for you validates your art? Is it the price somebody is willing to pay? Is it a positive critical response or is it something other? Please explain.

Validating is a mixture of collector response and the ability of those that connect with the work to directly start a conversation about your practice. The access of collector to artist communication, without any gatekeeper aspect, is one of the best components of cryptoart. I love hearing about how someone interprets a piece. It often teaches me something about it I didn't see myself.

What is your response to an established art world that might appear biased towards art done by the artist hand?

Last I checked, I used my hands to make NFTs so if the assumption is "traditional artists are skilled craftsmen that look to master their medium" I don't see that as any different using digital workflows. In terms of artist approach, I use the same mix of intent and chance as I do with a palette knife as I do with apps. Why anyone takes this attitude to claim some sort of legitimacy over other methods is just gatekeeping at its worst.

Good point, Sean. Thank you so much for your time

You are most welcomed.

Matt Kane

Matt Kane's career as an artist started in Chicago around 2004 when a Chi-town gallery started selling his oil paintings. Being channeled by the art market in a direction his gallery desired cramped his creative desire and style. He eventually left the art world for a decade to work as a web developer in the Pacific Northwest. There, Kane learned how to program and develop his own software to create the works he had in mind.

Kane says that he has always had a keen sense of colour that he developed from an early age. And this style with colour has been consistent and evident throughout his entire career. His software was designed to leverage algorithms of his own making and input. Kane builds his paintings layer by layer, making design choices on how the algorithms should interact. He communicates in colour and pattern, in ways he has long understood but which were too complex or time consuming to perform by hand using traditional methods. Kane likes to explore historical aesthetics with code; to do with geometry what great painters had done previously with oils. To quote Matt:

"A great deal of digital art these days is created with the push of a single button. But I came into the digital space with the work ethic I cultivated in the years I built my own frames, stretched my own canvas, mixed my own paint, and could spend tens or hundreds of hours on a single painting. I wanted to discover what I could create by combining this tireless attitude with the exhaustive generative capabilities of code. An average painting of mine these days consists of over a million unique shapes, 100+ layers, and spend 12+ hours of my time while I make literally thousands of changes to hundreds of design variables across the user interface of my software."

This past September, in the thick of the COVID-19 pandemic, his digital art piece "Right Place, Right Time" sold on the blockchain for 262 ethereum, at the time equivalent to more than \$100,000 USD. This sale was significant in many ways for both Kane and other digital artists. Blockchain technology helps distinguish an original from a copy and in return opens the doors of what had been a closed art gallery market for digital artist. As a result, digital art has begun to fetch increasingly handsome sales prices and the attention of more and more art collectors.

Matt,

Thank you for being a part of this exhibition. I am amazed by the incredible breath of your work, both before going digital and afterwards. There is a consistency of style that is evident in your early painted photographs and layered resin works. That style has grown tremendously with the development of your software. The only difference one can see between your non digital work and what you are doing now is the accelerated and prolific growth. Would you say that is an accurate assessment?

This is an accurate assessment and it's beautiful to me that you identify that. When I first set out on designing my software, one of the major goals was to translate my already established style into code and develop systems around giving myself the ability to rapidly manifest my artistic visions. It would have been very easy to just write some flashy geometric algorithms, announce that I'd changed my style and call it my art. But for me, the great challenge was to merge two disparate chapters of my life and fully update who I had become as a person and artist. 2012 - 2014, I was in a very dark place in my life. The earlier chapter when I was a gallery represented artist was long over. The chapter I'd just had as a web developer came to an unceremonious conclusion with some unrelated (to web development) events that occurred in my personal life, which led me to relocate. Both of those chapters essentially felt dead to me at that time. So I was sort of like Dr Frankenstein, collecting the most beautiful parts of my life and finding a way to sew them together and bring life and unity to what no longer functioned on their own. Sometimes it does feel like what I've built and become is some sort of beautiful monster. haha. But what's important is that I was able to make use of pieces from all the chapters of my life and bring meaning to portions of my life which otherwise felt meaningless. These days, I reflect with great gratitude toward my past. My recent experiences in the NFT and crypto art community has changed how I relate to my own past. That's been the greatest gift I've been given. Sorry for getting off topic!

I should also tell you, while I worked as a web developer for all those years I continued to work as an artist with physical materials, except in a diminished capacity. Mostly weekends and evenings.

There are many layers or chapters in our lives and it sounds like you have successfully brought some of the important elements of your life into an integrated whole, much like your art. I would be amiss not to mention that what you just shared has provided some new personal insights into your work, "One of Us"- Variation 1. If you don't mind, please tell me some things about your approach to making digital art as well as what motivates you and captures your attention or imagination. How do these interact and relate to each other?

Because I created my own software, it only made sense to make my own file format too. Why settle for JPEGs and all the limitations that come with the previously prescribed paradigm? I wanted to create a way to record visual art in a similar way that music is written. My paintings are not pixels, but custom databases of math and code - just like music notation. They are records of every interaction and intent I have with my software, in addition to every output of my software. Math is future proof and allows me to re-interpret my paintings the same way a song can be played by any number of instruments or voices. When I created the first proof of concept for my software, I literally named the file, "Player_Piano.pde" because that was the intent-- to record a drawing while I create it and then play it back. But what happens if you pour a quart of motor oil over the keys of a player piano while it plays? What does that sound like? That's where the idea of introducing data to skew the reading of the painting database comes from.

Because I came from working with physical materials, where I might invest hundreds of dollars into materials that make up a single oil or resin painting, I wasn't afraid to say that a painting database could take up a whole 500GB hard drive and that would be appropriate for the significance of a single digital painting. File size be damned, I felt the act of painting was as important to record as the final result.

NFTs really captured my imagination in 2017 due to their ability to provide unforgeable provenance that can also code in things like royalties. Since then I began thinking about how NFTs could change the relationship of an artist and collector-- and so as I developed features in my software, such as the deconstructions, I thought about how that might translate to NFTs. You can see that emerge in the Volatility project that came out of Right Place & Right Time where a master artwork creates generative editions. And then you can also see how I provide my collectors extra experiences around the artwork they collect through my NFT portal website. They sign in with their digital wallet and then get exclusive experiences related to the artwork they collected. All of these ideas began germinating before I ever minted an NFT-- but hooked in so well to what was naturally happening in the evolution of my digital studio software. And I have to credit the Rare Pepe project with where I probably got the idea of NFTs as access from because they really innovated that for all of us.

That is fascinating, Matt, the way your creative mind works and hooks conceptually into new avenues of exploration. Your musical references remind me of another artist, Ansel Adams, who saw the photographic negative as the composition, and the print as its performance. He desired others to have access to his negatives so that they could perform the print. To my knowledge though, it did not go much further than his negatives being donated to the Centre for Creative Photography in Tucson, AZ.

You usually begin with what seems a conceptual approach to your art. Does your initial approach end up evolving or going a different direction? If so, is this direction influenced or channeled by the use of your software and other digital technology?

I always remind myself to trust the process. What that means to me is to remain flexible and keep my mind malleable and open to be influenced by chance. There's a lot of serendipity that enters our lives, which I'm able to spot if I'm not distracted by staying on a singular path or preoccupied with trying to control outcomes. One must become open to the fact that our destination is rarely the target we initially aim for. I'm someone who generally will patiently wait for a vision or go fishing for one, usually during meditation or on a walk. I see everything all at once. It comes and sometimes I'm able to really explore the ideas within my mind and rearrange things until I've got them set. And then I get up and have to make a rough sketch of what was in my mind. From there, it's a matter of manifestation.

But in something like my deconstructions, it's completely by chance how a dataset will form a new work from a painting's elements. That's something I find very exciting because it's contrary to starting with a specific concept-- and yet yields what I think are some of my most visually spectacular works. And that was one of the original intents-- can we visually rearrange "Twinkle

"Twinkle Little Star" into something that's both recognisable and also deliciously abstract? And what additional meaning can we bring by curating the dataset that influences these alterations of targets to skewed destinations?

Yes, what discoveries and meanings can we bring and also encounter as both creator and viewer with art? There is this field of unknown possibilities. When you are working with digital processes such as algorithms, filters, visual modulators and/or AI, is there a discovery process that is somewhat consistent for you in that process? If so can you please explain that a little further?

What's generally consistent is that I write my own algorithms or in the case of AI, my own process oriented procedural AI. I generally will just work in a vanilla Processing.org window to initially write something. That allows me to be most playful and discover what mistakes might actually be right. And then later, I'll work on hooking the algorithms into my software-- or put it on the back burner. I have lots of wonderful algorithms I've written which are still waiting for deeper attention or just to be integrated. I've developed my own API language for achieving pretty straight forward integration into my digital studio software. Probably most things I do would be frowned upon by academia in both art and programming if they ever got to look under the hood of how I do what I do. That's right where I like to be. Everything is a hack. Everything is a proof of concept that's grown to become a mutant. But it's fresh and it's happening.

Are there at times some type of 'synchronicity' from the information technology side that leads or informs your creative decisions?

When I created Right Place & Right Time, it was complete happenstance that the painting's layers numbered to 24, which led to synchronising to the 24 hours of Bitcoin's volatility. Right Place & Right Time was such a strange creation because it kept telling me what it wanted to be, even as I was trying to make it into something different. It's still doing that, by the way. It's still informing me what it's supposed to become. It's a beautiful creative process to not fall into the trap of rigid target-based destination, but instead keep the creative process volatile. It's just a matter of listening to what the work is wanting to tell you. Sometimes the artist is a servant to the vision.

Yes, sometimes an artist is the channel or conduit from a variety of stimulus or inputs that feel like something other. Why should we not expect that other to be some sort of AI or artificial mind? Does the technology surprise you, perhaps to the extent that it almost seems like a collaborator or its own entity?

I get surprising results sometimes. When I first began writing my software, one of the things I was obsessed with was recursive functions. This led me to design my software in such a way that most of the algorithms I write and hook into my software become interoperable with one another. This has led to some surprising results when it doesn't lead to a system crash! But mostly, I feel like I'll see a surprising result and then create a hook or elaborate on the surprise

so that it can become part of my normal visual language. As I write this, I realise I really haven't used my software anywhere near its true potential. I haven't shown what it can really do. That often makes me laugh. I still have lots of ground to cover into the future.

Well, I can't wait to see some of those results. I know the business side of things has kept you fairly busy. What has been the audience response Vs the traditional art world critical response to your art?

I don't think this is for me to say one way or the other. I welcome all responses in all flavours. I've been very fortunate in that people from all sides have been very generous toward myself and my work throughout my career. I'd love more response from all sides. I think most artists probably feel this way.

Are you often surprised and/or enlightened by what the viewer brings to the table when encountering your art?

Yes, recently a new NFT collector explained to me how they saw the more abstract days from my Volatility project as being when people are gambling on Bitcoin and diluting the true value of the currency. This agreed with a perspective I already had about the work, but put it in such a succinct way. And of course, to hear your own feelings about an artwork of yours mirrored back to you is a really special thing for an artist. It confirms that you communicated something to at least that person. I love that art is open to everyone's individual interpretation, but it never gets old to meet someone who gets the angle you were coming from with something.

What, for you validates your art? Is it the price somebody is willing to pay? Is it a favourable critical response or is it something other?

What validates my art is my own willingness to put the work before the public or share it even with a friend. I've always been someone who makes my work for myself and is content if I'm the only person who ever sees it. This is probably why it was easier for me to walk away from the gallery success in my mid twenties. I care deeply for honouring my art, my themes, my subject with the utmost integrity. I've never cared for satisfying social media or create things based on the number of "likes" things get or number of "dollars." I had the occasion of having it be suggested to me by my gallerists to create an additional number of oil paintings when I was 24 or 25. At the time, I was moving into more experimental resin works. I never felt good about how I allowed the market to dictate my creative direction in that moment, so lesson learned. That's the sort of thing that I've been careful not to repeat in my crypto art career, minting NFTs.

If a work resonates deeply with myself, I trust that this energy will transmit and similarly vibrate with another person. If I show a work, it's because it's the right time to show the work. There's usually some context to what I'm saying when I'm saying it. Maybe sometimes there's not, but generally I do like to use the medium of time to further energise and bring meaning to a work. Blockchain has been great for this because it allows for timestamps.

What is your response to an established art world which appears biased towards art done by the artist hand? Here i am speaking about the institutional gallery/museum/education establishment that seems reluctant to embrace or understand the NFT world while furthering "business as usual" from their own end.

First, I have to say that I've had the great fortune of speaking with some individuals and foundations from the established art world, and I must say that they are kind, courteous, and curious. I haven't had the personal experience of feeling snubbed by anyone except one occasion when I made the mistake of trying to explain NFTs on a gallerist's Facebook thread. I got accused of belonging to a cult simply for using the term 'paradigm shift.' :)

Are they biased toward art done by the artist's hand? Well they should look into my work. It's all created by hand! Custom software that was hand coded from scratch over 15,000+ hours and 7 years in order to approach my more traditional practice. And then I make paintings by hand with this tool I made by hand. How is a painter's set of brushes more significant than a generative artist's keyboard as a tool to translate what each of us sees in our mind's eye?

Things are changing and it's very hard for some people and institutions to welcome change, especially when it might mean a shifting in the balance of power. I get that. NFTs are great at provenance. They're great with distributing artist royalties and creating economies around artworks. They're terrific at being unforgeable. NFTs are a technology that solves lots of problems that have existed in the established art world. The technology can be adapted to suit the needs of the many - not just digital artists. All it takes is imagination and we happen to be in the imagination business. So let's build the future together. I don't view this as an us versus them scenario. I see the question as being-- how do we show some great use cases and really demonstrate the benefit that NFTs can offer? This is where I try to put my energy. And I think this show you are curating is a great step forward toward reaching these means. Thanks John!

Matt, thank you. This has been a very informative and thought generating conversation. NFTs are an important development and opportunity for the art world. All of us in the art world need to work together. Thank you, again.

Daniel Ambrosi

Daniel Ambrosi is recognised as one of the founding creators of the emerging AI art movement and is noted for the nuanced balance he achieves in human-AI hybrid art. Ambrosi combines computational photography and artificial intelligence to create exquisitely detailed artworks that move people visually, viscerally, and cognitively. His artworks have been exhibited internationally, installed in major tech offices, featured in multiple publications, and collected by enthusiastic patrons worldwide.

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Daniel, thank you for your time. It has been said that every great artist is a great inventor. You were able to convince two brilliant software engineers, Joseph Smarr (Google) and Chris Lamb (NVIDIA), to modify the DeepDream source code to suit an intended direction. And, with perhaps surprising results.

From a distance your large format artworks appear to be a photographic reality, beautiful landscape images, but up close they seem like a digital hallucination. They evoke a hybrid quality of pointillism, fractal technology, surrealism and realism into one integrated whole.

Upon viewing your work I was reminded by the following quote of Psychologist/Philosopher, William James,

"It is our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different. We may go through life without suspecting their existence; but apply the requisite stimulus, and at a touch they are there in all their completeness, definite types of mentality which probably somewhere have their field of application and adaptation. No account of the universe in its totality can be final which leaves these other forms of consciousness quite discarded. How to regard them is the question ..."

With viewing your work there can also be a sense of the "Itness" that Alan Watts refers to in his book. 'This is It and other essays on Zen and the Spiritual Experience'. Do you think there is a sense of Itness, i.e., otherness that is integrated into the present objective view when one encounters your work? I'm talking about a sense that one can encounter when viewing the vast panoramas available in nature or watching a flowing river in stillness, a moment of clarity in awareness that is triggered under the right circumstances and experience.

I hope so and think so, based on the many powerful reactions I've witnessed. But I suspect the truth behind that is a bit more complicated. I think the cognitive dissonance between the distant and close appearances of my Dreamscapes jolts viewers into questioning everything about what they are seeing. Therefore, the "Itness" and/or moment of clarity they have is not so much about what they are seeing, but about what they are not seeing... and what may lie beyond seeing.

You were influenced greatly by the history of landscape painting and in particular by the Hudson River School of painters. You also pursued architecture at one point, did your early artwork involve painting? In what ways, if any, does your earlier work, i.e., non-digital art differ from the work you now producing?

My art has always been digitally native since my earliest days some 40 years ago when I was a student/researcher at the Program of Computer Graphics at Cornell University. What has changed to some degree since the start of the pandemic is the nature of the final art objects I've been producing. Prior to the pandemic, the majority of my finished work was printed on fabric and installed on light boxes. I'm still doing that, but the balance has tilted toward purely

digital artworks (e.g., images, videos, interactive 3D objects) that are presented digitally (e.g., online, digital displays, projections, VR, NFTs).

Yes, I would like us to come back to the presentation side of your work. First though, please tell us about your approach as well as what motivates you.

My formal art career started in earnest almost 10 years ago, and I see this entire time period as constituting one cohesive continually evolving art project that emerged from a very specific artistic intent: To capture and convey the power of special places. To elaborate on that: As an avid hiker, skier, and traveler throughout my adult years, I gradually developed a burning desire to capture in a two-dimensional image the profound and moving experiences that I was having in the presence of special places like great landscapes and cityscapes. This is the core intention that continues to drive my Dreamscapes project.

When you are working with digital processes such as algorithms, filters, visual modulators and/or AI, is there a discovery process that is somewhat consistent for you in that process?

Absolutely. You mentioned in your introduction that every artist is an inventor; I believe every artist must also be a curator. For me, the discovery process is intimately tied to curation and, to be effective, that curation must be directed by a very clear vision.

I see, if you don't mind, please explain that a bit further.

Sure. Let's take DeepDream for example. As released, DeepDream provides hooks into 84 different layers in its neural network, each one of which results in a different look or motif when applied to an image. As one moves through these layers, those motifs tend to range from abstract/impressionistic at the highest levels to very literal/animalistic at the lowest levels. There are also four sliding parameters that modulate the scale and intensity of the "hallucinations" for each target layer. The net-net of these controls is that I'm granted an infinite degree of variety within a finite repertoire of motifs. An important part of my job is to find a dreaming style that is visually and/or texturally compatible (in my subjective opinion) with the source photography to which it is applied. And in the case of "multi-pass" dreaming, where I apply two or more passes of dreaming at multiple scales to create layered dreaming effects, I need to find dreaming styles which are also compatible with each other.

Do you think or feel there is a collaborative input from the information side of the technology that leads or speaks to you, sort of like an artificial mind that is speaking to you about what it sees?

It certainly surprises me. I am under no illusion that my AI is sentient; it is just a tool. But its capacity to surprise me makes it feel like a collaborator. An important way in which DeepDream distinguishes itself from mere image filters is that it is contextual: it transforms my imagery in unique ways specific to the underlying forms, colors, and textures of the original photography. This specificity is more apparent with some neural network layers than others in DeepDream,

but in general its ability to respond to what it's seeing while retaining fine details in the original imagery makes this a sophisticated tool that verges on creativity. The reason I use DeepDream is because in a sense it sees the scenes I capture in a manner that is related to but markedly different from humans. Since seeing is a creative process that humans often take for granted and mistakenly assume is a mere recording of objective reality, DeepDream provides an opportunity to remind people that different species (and machines even) see the world in vastly different ways.

Speaking of seeing, what has been the audience response Vs the critics response to your art?

By and large, the response to my Dreamscapes has been remarkably positive; the crossover appeal continues to astonish and gratify me. I have had a few rare instances of art elites being somewhat dismissive, but that usually seems to be because they mistakenly think of DeepDream as mere style transfer or image filtering. And for some critics I get the sense my art is too "pretty" and not edgy enough for them. But art is subjective, of course, and can't please everyone. My Dreamscapes please me and appear to delight and inspire many others.

Are you often surprised and/or enlightened by what the viewer brings to the table when encountering your art?

Yes! This was a big surprise to me which revealed itself on the opening day of my Dreamscapes debut back in April 2016. I learned that we see what we expect to see until we can no longer deny that we're seeing something else! What I observed is that the distance at which a person can no longer see the hallucinations hidden in my Dreamscapes is at least twice as far away from the print once the person knows they are there. That means that the first time they approach my work there is an entire span in that approach where they are unconsciously biasing themselves toward their expectations. Then suddenly at, say, three feet away, it hits them that things are not at all what they seem. That's always a fun moment to observe (usually because it involves some shrieking), but it's especially fascinating to me how much further back they have to walk to "unsee" the hallucinations once they've learned the truth. This really opened my mind to the understanding that seeing is a creative act entirely, which ironically takes place in the unlit space inside your skull.

What, for you validates your art? Is it the price somebody is willing to pay? Is it a positive critical response or is it something other?

All of the above, I suppose. I think it's safe to say that most artists are fairly insecure. At the same time it's critical for artists to strongly believe in their work if they want any chance at success. For me, the biggest measure of success is the number of people in the world I get the chance to immerse in my work. I want my work to be seen, ideally immersively on grand scales. I've built a huge body of work over the years, and much of it has remained locked in a digital prison viewed by most people only via their phone or laptop. In a sense my art marketing efforts have been all about trying to engineer a mass jail break to get these gigantic images exhibited or installed in the real world and seen the way they are meant to be seen.

Well it is breath-taking work. The AI tool has enabled you to achieve some astonishing work. I can see someday that we will have large scale immersive technology that will enable people to experience the display of your work on a massive scale and realize that 'jail break'. What is your response to an established art world which appears biased towards art done by the artist hand?

This bias has annoyed me sufficiently to compel me to write a mini-manifesto about it back in 2017 (see *Fine Art and the Unseen Hand: Reconsidering the role of technology in the handcrafted tradition of fine art*). But I believe this is changing rapidly and has been greatly accelerated by the recent rise of digital art and NFTs, and with historic auction houses like Christie's and Sotheby's beginning to sell purely digital works. There will always be great museums and physical galleries to visit and enjoy handcrafted art. But even these traditional venues will begin staging immersive digitally-projected art experiences like those seen at popular immersive-only venues such as Artechouse and Atelier des Lumières.

Daniel, this has been a fascinating and enlightening discussion. Thank you for spending time with us. I wish all the best with your 'jail break' and getting the right type of exposure that such a great body of work deserves.

Anne Spalter

Anne Spalter is an academic pioneer who founded the original digital fine arts courses at Brown University and The Rhode Island School of Design (RISD) in the 1990s and authored the internationally taught textbook, *The Computer in the Visual Arts* (Addison-Wesley, 1999).

Her artistic process combines a consistent set of personal symbols with a hybrid arsenal of traditional mark-making methods and innovative digital tools. A new body of work, further developed at a winter 2019 residency at MASS MoCA, combines artificial intelligence algorithms with oil paint and pastels. She is currently creating work for the blockchain.

Spalter is also noted for her large-scale public projects. MTA Arts commissioned Spalter to create a 52-screen digital art installation, *New York Dreaming*, which remained on view in one of its most crowded commuter hubs (Fulton Center) for just under a year. Spalter's 2019 large-scale projects included a 47,000 square foot LED video work on the Hong Kong harbor.

Spalter's work is in the permanent collections of the Victoria and Albert Museum (London, UK); the Albright-Knox Art Gallery (Buffalo, NY); the Rhode Island School of Design Museum (Providence, RI); The Museum of CryptoArt, and others. Alongside her studio practice, Spalter continues to lecture on digital art practice and theory.

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Hello Anne,

Thank you for your time and for being a part of this exhibition. You have a long remarkable history in the field of digital art, and in that course not only creating some landmark works but also amassing a collection of works by digital artist over the second half of the twentieth century. Spalter Digital is seen as one of the world's largest private collections of early computer art.

You have a very large portfolio of work that much, to my amazement, is not available as NFTs. You probably have plans to make more of your work available for NFT collectors. Do you know of collectors, perhaps from the established art world who are now amassing important crypto art within a historical context?

Spalter Digital is collecting NFTs and as far as I can tell we are the only private collectors from the traditional side of things doing this. The worlds seem like parallel universes right now.

Yes, it makes sense that Spalter Digital would be collecting NFTs. It's sad to hear of the two parallel universe. Perhaps we can create some type of wormhole between them. In what ways does your earlier work, i.e., non-digital art, differ from the work you are now producing?

I would say that the content of the work has not changed much. For decades I have worked with a collection of personal symbols that I believe are also representative of our collective unconscious. These symbols include pathways such as highways and bridges; modes of transportation such as planes, ships, and UFOs; bodies of water from oceans to swimming pools; signalling structures such as lighthouses; and largely empty landscapes often featuring skyscrapers and urban landscape or clouds, mountains and water/seascapes.

The compositions frequently include or are based on circles and spheres and use patterning to create geometric order. The works usually incorporate specific times of day, using the lighting and colours of sunset, sunrise, or twilight.

Like recurring characters in a story these symbolic images come and go in different combinations and I have approached them with a range of both traditional and digital media. They often have simultaneous physical and spiritual references—acting as both objective landscape elements and tools for inner exploration.

Yes, in the exhibit one can see these motifs or symbols used in similar and different ways. For example, 'Shifting Signals', that you did in early 2020 is reflected in a more recent work 'Control' where again we see combinations of towers, birds and jets that are featured in other works. You often will work collaboratively with generative software to discover and select visual proposals or inputs into the creative process. You then apply a mixed media approach to producing the final image. However, in some works you now take that input for collaborative use with other generative software and digital inputs, even drawing on the image with an iPad. Please share some things about your approach to making digital art as well as what motivates you and captures your attention or imagination. How do these interact and relate to each other?

I often use digital technology to generate new ways of approaching the personal iconography described above, recently including artificial intelligence. I'm not sure my approach to digital art making is any different from a traditional approach. It's still about imagery, form, color, composition, etc. I try to use the best tools to investigate whatever I'm focused on--which at times are digital and at times traditional, and sometimes a mixture.

Do you start with a planned idea or approach? Does your initial approach end up evolving or going a different direction? Was this direction influenced or channeled by the use of digital technology?

Although I do sometimes begin with a plan in mind, I rarely end up proceeding in a straight line toward some preconceived goal. I try to remain open to what the work is telling me as I work. As often as not, the end result is different from anything I had anticipated. With digital technology I can try out many alternatives quickly in ways not possible with traditional media.

When you are working with digital processes such as algorithms, filters, visual modulators and/or AI, is there a discovery process that is somewhat consistent for you in that process?

The process of working with tools like filters, custom algorithms, and even AI definitely involves discovery and serendipity. Because I don't know exactly what results a given process will deliver, there is constant new information that then triggers additional thoughts and next steps. I think such tools help keep the creative process open.

You use certain symbols that we share in our collective consciousness, Sometimes they emerge early from a chronological perspective and the reappear much later. I am thinking of two works in particular 'Shifting Signals' and 'Control'. Do you find synchronicities from the information side of the technology that leads you? Does it feel sometimes like a collaborator, as if it understood what you were trying achieve?

Especially when using AI, I do feel as if someone else is there with me in the studio, suggesting all kinds of often surprising and intriguing ideas. While I don't get the feeling that it knows what I want to achieve, I do find that because I feed the AI program with my own imagery and/or content i'm interested in, that it can produce compositions I probably would not have come up with on my own, but would have been pleased if I had. The process also seems a bit like dreaming, which fits with my interest in the unconscious. I feel as if these new compositions bubble up from the unconscious mind of the computer and that the computer and I dreamt them up together.

That is very interesting conceptually. It remind me a lot of Carl Jung's interest in synchronicity and his use of the I Ching, where random input pulls up meaning, magically, from the subconscious. Are you surprised and/or enlightened by what the viewer brings to the table when encountering your art?

I don't ascribe specific theoretical meaning or political narratives to my work, so there's a lot of room for personal interpretation. Most of the works can be appreciated in an abstract manner or are pretty self-disclosing. Viewers don't need a lot of background in art or art history to see and appreciate the work. I especially enjoy it when children are taken with pieces and spend time with them.

It seems you allow for the individuation of meaning to be discovered by a viewer perhaps through the use of collective unconscious imagery. What, for you validates your art? Is it the price somebody is willing to pay? Is it a favourable critical response or is it something other?

Well, it is great when a piece sells. It's nice to get paid for one's efforts and it's also wonderful to have close relationships with collectors and know that someone is enjoying a work. Favourable critical response is also encouraging. All these external things help validate one's efforts and provide motivation, but are icing the cake. The most important validation is when you feel that you have successfully created something that expresses a feeling or experience.

Yes, that is the way it has to be for artists, for remaining motivated, the satisfaction of achieving a new creation, that I am sure. Anne, thank you so much for your time and willingness to be part of this exhibition.

burst

Burst_ is an anonymous crypto artist with an emphasis on post-neoexpressionism and digital art. He creates futuristic-hybrid-organic artworks in digital as well as physical form. These are multi and mixed media artworks which are supported by video, animation, digital media, augmented reality and actual paintings. He often plays with motifs which repeat themselves, a sort of code. Transformative processes of the human psyche in a digital age constitute an important focal point of his work.

Burst is from Vienna and currently lives in Peru. His early years and artistic influences go back to his childhood. His father was an artist and his mother worked in a record store. He grew up with the smell of oils that he remembers to this day and the afternoons of listening to records of all ages and genres. Due to his background and living in Vienna he had the opportunities to study many great painters and access to all the museums and galleries. Burst was influenced by painters such as Pablo Picasso, Friedensreich Hundertwasser, Joan Miro, Mark Rothko, Monet, Van Gogh, Gustav Klimt, Egon Schiele and the Jugendstil in general. Later in life, he actually worked on a major historic reconstruction of a wall frieze on 'THE' Jugendstil building in Vienna. He was also been attracted to Egyptian art from a very young age.

Burst is quick to point out that this exposure is the tip of the iceberg for him. He has had many different artistic influences from music (playing in more than a dozen bands, producing music, touring, songwriting), to performance art, video art, movies, books, poetry, animations, digital art, contemporary fine art. He is known to travel to museum in other locations (countries) where there is a certain exhibition of interest. For Burst art is life and liberation.

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Burst_, thank you for being a part of this exhibition. Your prominence and embracement of the crypto artist community is well known, as is of course the prolific volume of your artwork. Before you transformed into Burst you had had many solo and group exhibitions of your work. You moved into the crypto space in November of 2019 though the encouragement and mentorship of the legendary crypto artist, Yusaymon. Did your earlier work, i.e., non-digital art differ from the work you now producing?

That's a tricky first question! I had already developed my "signature - HAHA style" but I didn't know how to implement it in my body of work I had at that time. Nobody has seen it. You can say I kept it for myself. I felt it was something special and it needed a persona. I was always fascinated by anonymity and creating a persona which could impersonate the essence of an idea(l) and around the time before I first came to Peru in spring 2019, I was questioning myself where I was heading as a fine artist. By that I also mean in my socio-cultural environment in Vienna (Austria). I was in debt at my bank, did not get the recognition I was aiming at as an artist and I was starting to develop self-destructing behaviours. I was drinking alcohol almost everyday and smoking a lot of cigarettes. Exactly at that time in my life I came for the first time to Peru to visit my girlfriend and I met Yusaymon who showed me crypto art. I fell in love with the place my girlfriend and I had moved to, Huanchaco and I started changing my behaviours and changing as a person. When I came to Peru a second time, I didn't know we would stay here for 2 years due to the pandemic and that the work of my girlfriend as a therapist would become very important. However, by that time I knew instantly that it was the right moment in November 2019 to create my persona burst_. He is a person who is laughing at and with life, art and the world in general and who wants to spread joy, laughter and visual as well as intellectual pleasure with the artworks.

That is a fascinating story, burst_. I can see how things and moments came together for you to change your life and artistic direction in a very positive way. Can you tell us some things about your approach to making your digital art crypto art as burst_ as well as what motivates you and captures your attention or imagination.

For me there is no distinction between there is art and there is life and all the other things. For me art is life. I think, feel and breath in art. I "do" art everyday, for me it is something essential like drinking water or going to the toilet. This is my mindset and I love what I'm doing! About my approach: it almost always starts with an actual painting, then I take a high res photo with my iPhone and transfer that to my MacBook where I start with the first layers of image manipulation and later on animations.

I have some narratives going on like my "At the exhibition" series where I reflect on the idea of the artwork as a portal or gateway to another dimension/reality. In that series I play with the idea of the artwork being exhibited at an art fair or in a gallery. What role has the artwork in such a space, which meaning has it? And what does it do with the observer?

The artwork itself is a portal to a different realm. The realm of imagination, a different dimension, a gateway which opens up to the observer, who immerses him/herself in the work. Or put into other words: The artwork serves as an object of immersion through which the viewer is able to immerse himself in this different reality. Besides that I reflect a lot on technology, blockchain, crypto and where we as humans are headed in this new evolving world. Laughter is something absolutely human something basal and natural and there are so many different laughters I am fascinated by that. You can laugh that much that you can have an out of body experience.. I actually had such an experience.. HAHAHAHA

HAHAHAHA - i bet that was something. I get it entirely what you mean about art as a portal. There is a communication of understanding and meaning that can be transmitted in unseen and unimagined ways beyond the artists initial intent. Art can play this mysterious ministry with life. I'm curious about the initiation though. When you are working with digital processes such as algorithms, filters, visual modulators and/or AI, is there a discovery process that is somewhat consistent for you?

In my digital process I learn a lot about perspective, angles and composition. Since it is much easier to try out new things. I often fool around and totally transform my work to understand better where I am headed and where I wanna go. But mostly since I start with an actual painting first this gives me a sort of framework or basis from where I am starting my creation process. And since a couple of months, I am fascinated by combining the digital work with the physical. I am immersed into AR (augmented reality) right now ;)

I saw a photo in your twitter post of an AR experience. One would have thought they were looking at the original art except that small elements were moving. It was quite convincing and makes one wonder where this display medium can go in the future. What has been others' responses to your work? Are you often surprised and/or enlightened by what the viewer brings to the table when encountering your art?

The response has been really fulfilling. My experience is that a lot of people can identify themselves with my work and especially with HAHA, it speaks to them. I really appreciate hearing personal stories from my collectors in what way they are perceiving in my work for example or how my work is communicating with them. I really believe that sometimes the artwork itself has its own life and interact/communicate with people who are observing, appreciating it. The artwork develops a life of its own you could say.

Yes, it most certainly does. burst_, i have one final question. What is your view on the future of digital crypto art mined as blockchain NFTs?

I just say this one sentence (it is also the title of one of my artworks): Cryptoart is the future of art!

I believe you are correct. A time will come when viewing art on a gallery wall is seen as so 20th century. burst_ thank you for your time and for being a part of this exhibition.

Nate Mohler

Nate Mohler is an emerging media artist who works with technology as a paint brush to build conceptual and avant-garde experiences through digital art. A 2019 UCLA graduate with a B.A. in Design | Media Arts, Mohler is intrigued with the fusion of conceptual art and technology to support connectivity and social activism with unconventional space and sound. His work focuses on eliciting action and question through digital mediums such as projection mapping, immersive installations, sculpture and video art. Mohler treats each project as an opportunity to evoke emotion, challenge thought, or support social change.

Most recently Mohler created projection shows for the Jewel Fountain in Singapore during a short stint at WET design. At the end of 2020 he finished two huge gallery installations “Rise and Fall” and “The Eventual Unraveling of Everything”. Nate is a sculptor, programmer, developer, artist and designer; Nate's works bridge both the information technology world with the fine art/media art community.

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Nate, thank you for your time and collaboration with our virtual exhibit of digital and crypto artists. You are a sculptor, technologist and art media developer/director. Your work seems to be geared conceptually towards audience participation and social interactions, while often also expressing ideas around information, quantum and chaos theory. You deploy installations and projection mapping with breathtaking and extraordinary results. No doubt working with Refik Anadol had a strong influence on your captivating early work 'Red Room'.

However, in 2020 you went down a different avenue, life in the virtual world on a computer screen. I'm referring to your “Painted Cities” series that you released as NFTs on SuperRare. Here you explore the memory and dream state of a city through the fusion of motion and ink, using a unique technique that includes multiple forms of AI, including a neural style transfer that fused videos with ink, texture, and photographs.

The works for this series convey painted memories of Rome, London, Los Angeles, and elsewhere. You created these specifically to disrupt the fine art world and challenge the culture of collecting paintings. Your hope is that these pieces will “further the digital art movement and open the eyes of traditional collectors to digital mediums that are conceptual, thought provoking, and engaging even while living on a screen”.

It appears that, in dealing with life on a computer screen, you were still focused on connectivity and social activism. Also, using the videos, you worked with AI routines in a similar way as a form of projection mapping. Please tell me about your approach to making this series as well as

what motivates you and captures your attention or imagination. How do these interact and relate to each other?

The approach is not complex but requires a series of steps and lots of patience. Primarily it includes a base video with a style from multiple or a single image. Machine learning plays an interesting role in the process to expand upon the ability to imagine. Some AI tools help you recognise faces, some tools help you increase resolution; I'd like to believe style transfer is the machine trying to imagine. Much as a painter is restricted to his brush and his paint, it's the finesse from the artist's hand and the artist's experience that matter most. Much of my motivation stems from the desire to inject more of the artist's finesse and humanness into digital art. More often, than not, as digital artists use the same assets, the same training and same programs, the works start to look the same. Though some tools are better than others, style transfer heavily relies on two very human-impacted mediums: photography and videography. What I mean is that there are many layers and many moments to inject artist-finesse and authentic human error.

First, I source a base video input and look for something slow with two forms of motion; a main camera movement and smaller secondary motion such as cars or people. Next, I source a series of watercolour textures or photographs from the area to use as "style" inputs. I then process the input video and style frames through a machine learning process called neural style transfer. Which attempts to identify intricacies in the input video and match textural moments in the style image. Often this experimentation takes multiple attempts to find the perfect harmony between color, motion, and texture. The result is something short of code assisted hallucinations.

In working as a conceptual artist, you obviously have a planned approach. Does your initial approach end up evolving or going a different direction? If so, was this direction influenced or channeled by the feedback of the AIs that you used?

Yes, life without experimentation is dull. Having a set approach and system is safe and secure but I always continue to experiment. Often the approach is directly influenced by the results from the AI, but also develops from outside influences such as mood, environment, and concept.

When you are working with digital processes such as algorithms, filters, visual modulators and/or AI, is there a discovery process that is somewhat consistent for you in that process?

There is a love hate relationship between machine and creator. More often than not the AI behaves in unwanted ways. For example, when you use AI tools such as the content aware fill tool, sometimes it doesn't work and looks glitchy and abstract. The same mistakes happen but with artistic intention and vary with different personal goals and expectations. When I do style transfer research for a piece I embrace the mistakes and unexpected outcomes. The beauty lies in the unexpected tests. I often test 25 different methods and styles attempting to break the

program to get an interesting and original result. For artists we strive for the unexpected results that turn out beautiful, those are the gems in the creative process.

Yes, they are. Do you think or feel there is a synchronicity from the information side of the technology that leads or surprises you? Does it sometimes seem as if the AI is its own entity? If so, please explain or talk a little further on these points.

Hmmmm, I think AI is most commonly used as a tool rather than its own entity but using AI as part of the narrative and concept of digital art is relatively new and growing. I credit the rise in synchronicity from information, data visualization, and conceptual use of AI to artists such as Refik Anadol, Jonas Lund, Casey Reas, Lauren McCarthy and some of the other top digital artists practicing today. Refik's use of machine learning to explore the concept of information/architectural dreams is probably the most influential and best applied use of AI artistically. Stylegan often seems like an AI with its own entity. Now we see techniques such as style-gan everywhere, even though Refik was the first to use it. Good examples of stylegan are through projects such as the Walt Disney Concert Hall Dreams piece, visualizing the past 100 years (12,000gb) of the LA Phil Archives. Refik has also applied stylegan to photos of architecture and NASA; re-imagining form and structure from a collection of photos to create a unique conceptual base. My first interaction with AI technology was probably with the Content Aware fill tool, arguably the widest used AI tool in existence. In both photoshop and aftereffects, its ability to remove an image and replicate the background is extremely useful. AI technology is everywhere in our everyday lives. It seems today that you can't have digital and media art without AI involved in the process in one way or another.

It does seem that way and of course it depends on how we define AI tools, content awareness and what types of machine learning techniques are involved. What, for you, validates your art? Is it the price somebody is willing to pay? Is it a favourable critical response or is it something else?

Validation of art is an interesting question. I suppose we all have an individualized experience, and perceived popular opinion dictates the price. My favorite answer to what is art comes from the Russian director Andre Trovovsky who simply answered; "before defining art — or any concept — we must answer a far broader question: what is the meaning of Man's life on Earth?" I tend to agree with Trovovsky, he further questions if there is a definite meaning for man's existence, art would be a vehicle to accomplish whatever that happens to be.

Well yes, that is an interesting question and perhaps something each of us must answers for ourselves. There are some critics in the art world who have labeled NFTs as problematic, that it is a hyped and passing fad, a bubble haven of stock speculators. In March of this year, Mike Winkelmann's, known as Beeple, NFT consisting of 5,000 of his illustrations sold for over \$69 million at auction at Christie's. It was dismissed as a marketing stunt. What is your response to an established art world which appears biased towards art done by the artist hand?

NFT's have their own set of problems but they are helping solve a problem media theorists have been debating for hundreds of years. When will the art world catch up to the digital medium and collect digital artworks in the same way as paintings? I believe prices for Digital Art has risen to crazy high levels, often unwarranted for their quality. Yet, there's still many amazing artists who deserve attention and recognition and the price they are getting for their work. Beeple has worked his entire life perfecting his approach and building a community, it doesn't surprise me at all that he sells a piece for 69 million. If you look at the traditional art market and Koons or Damien Hirst can sell entire collections for way more, then why couldn't an artist such as Beeple also do the same? It boils down to cultural understanding and recognizing art innovation and creativity against money grabs. There's lots of celebrities entering the space with over-hyped NFT's that are worthless in terms of creativity and quality, simply bought because they have social status. I implore curators and collectors to stay open minded, and read about the work of Refik Anadol, Casey Reas, Jonas Lund, David O'reilly, Ashthorp, Bradley Munkowitz, and others. We are not going anywhere.

Indeed we are not, Nate. The future is here. Thank you so much for your time and answers.

Richard Garret

Richard Garet's artistic projects can be represented as an interweaving of various media including sound, photography, moving image and multimedia performance. Garet draws attention to perceptual processes which activates conscious and subconscious phenomena, reflecting on the nature and experience of time. Garet's pieces, conceptual and/or stemming from the investigation of algorithmic translations and complex systemic awareness, are informed by the background noise generated with the collective sounds of the world around us. His reductive process seeks to translate the normal subtlety of this radiation, drawing it up from an unconscious status to active presence.

Garet's work was featured in the first sound art exhibition by The Museum of Modern Art of New York, MoMA; soundings: in 2013, with Garet selected to join the exhibit as one of the sixteen most innovative artists today, working with sound as a medium. However, representing his work as only sound art would be a disservice to his portfolio of work as a whole.

With his "Screen Memory' exhibition in Berlin, his interest was with mixing media and materials, dialoging within various media and moving between digital and analogue fields. In doing so he creates a sonic and immersive, perceptual, aesthetic. In many of these works, Garet references his background in painting. Garet holds an MFA from Bard College, New York.

Evidence of this strong interdisciplinary implementations can be found in his perceptual series where Garet uses sound to generate visualisations of sonic constructions. He then removes the audio leaving only the moving image to provide a visceral experience of the sonic composition. A luxurious continuity of colour and mood draws the viewer into the work where his paintings are translated into animation. This elaborate luminesce was shown in New York City's Times Square as part of its Midnight moment event.

Richard,

Thank you for your time and willingness to be a part of this exhibition. You have a background in painting with gallery representation here in New York City, as well as Berlin and elsewhere. Is there a difference between your earlier work, i.e., non digital art and what you are producing now?

I think my work is constantly in evolution and striving for progress. Nonetheless, I'm always editing it, reevaluating it, revisiting previous works, etc. I think with painting for example, it has informed much of my aesthetics and presentations. So, in a way I'm always considering that the essence and aura of painting is quite present in my work. Also the fact that contemporary techniques, technologies, and materials permit me to push works further, by arriving at more eloquent results that suit present and contemporary sensibilities better.

Can you mention some things about your approach to making digital art, perhaps what motivates you and captures your attention?

This is such a big question. I always felt a sense of moral and helical responsibility in the regards of digital per se. Perhaps too much of a modern spirit in the sense of having a strong feeling of obligation to test out and explore the newest possibilities and rejecting the falling into traditions. I think that's the departing point and motivation.

Philosophical ideas also pushed my work onto the digital, but for me it has been also about working and exploring the full range of technologies, from archaic and obsolete to the most current ones too, blurring the obviousness of what's what and at the same time making a final result that is digital and sustained in presentation in such a manner. In terms of attention I enjoy being embedded in the process to the point where imagination becomes a triggering mechanism of trying things and generating responses and feedback. Perhaps it is a methodology that I also acquired from painting that I still enjoy very much.

How is your artistic direction influenced or channeled by the use of digital technology?

For me it has always been clear that tech, an app, a programming software, etc., are tools and not the work. The work becomes what we make and what gets embedded into it within transformative nature that then, as a conclusion, we have something that can stand on its own. I think also knowing one's own limitations and trying to keep on expanding knowledge and such limitations are key steps. That being said digital technology is so broad and it can mean so many different things in terms of genesis and applications. So, in a way I'm meticulous to use it for my creations and challenge it at the same time as I use it. So, I think that level of tension allows for interesting results.

Indeed, they do and each piece has that special transformational, standing on its own merit that you mention. In your digital and non-digital work is there a discovery process that is somewhat consistent or different?

What changes is the medium or material. I think what's different is how digital reception and the ethereal surface of the screen has modified the sensorial reception of the material and medium. That's also why NFTs and Crypto art are quite interesting. That was my written statement approach and proposition with platforms like Super Rare. Meaning digital art as digital can be experienced that way right, but also digital reception has modified and proposed how we see as well by translating all forms and mediums to the very same receptive channeling; which is the poreless ethereal screen. And that's different and interesting and goes beyond just making digital art that often it's also presented physically as an object. But then art that is digital in origin and remains to be experienced as digital throughout each person's digital devices transcends a lot. Still not a question of what's right or not but it is here and now. We have gone from looking in a computer at something as a reference to looking at it as the actual thing.

That is an awesome response, Richard. Thank you so much for bring up these points. Your work seems to be made for the screen. The poreless ethereal screen, a new element in its own right and experience. Do you think or feel that there is something from the information side of technology that leads or informs you?

Humm. No, I think it's idiosyncratic and generative in accordance to each persons' immediate environment, interest, personal curiosity, capacity and culture.

OK then, shifting gears a little bit, What has been the audience's response to your work? Are you often surprised and/or enlightened by what the viewer brings to the table when encountering your art? Please explain.

I enjoy connecting to the spectators and how that may build upon dialogues and establish communities. The life of an artist tends to teach us to accept silence, rejection, competitiveness, obstacles, etc., and make work without expectations while also having grandiose expectations. I think making the work right with the right integrity is what's most important and then let the work do the rest. But yes, of course I value and treasure every response, but I do not let it interfere.

It's the art for the art's sake. One must create. Your work in the New York and Berlin galleries commands substantial compensation. What, for you validates your art? Is it someone buying your work? Is it a favourable critical response or is it something other?

Collaborations with galleries are different each time. The artists have their own expenses and production costs and so do the galleries as well. How much of that goes into what changes each time is depending on the arrangement. And the works are for sale of course. My work has been sold and collected for years now.

There is a general feeling, from the established art world, around the economic hype and viral buzz of NFTs, that it is a fad or bubble soon to disappear. Now that you have entered the NFT market space with your digital work, what is your response to an established art world which appears biased towards art done by the artist hand?

I have always taken risks that did not seem the right approach at first. Sometimes they do fail and other times there is significant progress. My approach was to make NFT work that was site specific in a way. Like much work that I do in spaces where such spaces become the shell that concludes the work and holds it all up together. I did not want to tokenize previous works, but I thought that understanding the environment and making pieces that took into consideration the context and its limitations was the right approach. So that's what I have been doing. I have been making work that suits the context and it's functional within that landscape at large. I do not know what it will hold in the future. Whether or not will it disappear or evolve. But we cannot ignore that there is a system that is unfiltered, it shows tons of possibilities for creation, and it has been ignited by economics, therefore it integrates forward into markets that have already existed. That's why the art world is going bananas with the whole thing. But are people really looking at the works and what they are, or they are just impressed by the sensationalism of large sales? In my opinion this is a field of expansion and we are yet to see what transcends and leaves a strong imprint. Then of course we cannot ignore that this boom happened during a global pandemic when the "in person" art world was completely paused. Did that help? But it's an environment for creativity and possibilities and that's what's exciting also. We have to see how it evolves and where it lands. The power dynamics of the art world would not want the NFT one to evolve for sure. That's a monopoly of its own. But something to mention also is that the NFT world operates differently in lots of ways and it does not have the same filters and there is something subversive about that too that allows for distinct voices to emerge. When I first started publishing these works I observed indifference, cynicism and negative skepticism from peers and other colleagues and now a year or so later many of them are also involved. So who knows?

Really, some do ... thank you Richard, for being a pioneer in this space and sharing with us your perceptions and inside views of NFT crypto art. I am looking forward to the new works you will soon be tokenizing.

James Fox

James Fox is a macro photographer who invites viewers into small, beautiful places with vivid and emotional abstract photography. James specialises in using flowing pigments in resin to create intricate and atmospheric pieces that the viewer may immerse themselves in and reflect on the art and beauty of small things.

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James, thank you for taking time to be with us. I am intrigued by your work in the context of art photography. Did you study art or photography at sometime earlier in your career?

I did not study photography but I did study graphic design and computer animation. I have found though, that the skills and fundamentals I learned in those fields have greatly benefited and influenced my photography. Things like colour theory, composition studies and all of the elements and principles of art and design really lend themselves well across the spectrum of the visual arts.

Viewers of your work may be surprised to learn that you do not use the computer input of various filters, procedural algorithms and other modulators to enter your work. Your purely photographic approach, besides the use of a digital camera and some minor tweaking of colour and staking photos, is more in the essence of pure straight photography with a unique sense of abstraction and equivalence.

When looking at some of your images one would think they are a combination of 3D work and optical flow algorithms. You do sometimes create 3D models, print them, and incorporate them into what you are shooting. You create beautiful images in the digital domain and sell them as crypto art, i.e., NFTs.

Please tell me more about your approach to making digital art, what motivates you and captures your attention or imagination. How do these interact and relate to each other? Do you sometimes feel that there is a collaborator working with you in the process?

Fantastic question. My approach to creating is to first be as open as I can to everything I experience. It is very human to judge and compartmentalise things and to try to make sense of them, but if you can experience things without those filters so many thoughts and ideas can potentially become available. I take a very abstract approach and I find that letting things bubble up from the subconscious mind is a great practice for pure creativity. Once you have an idea or vision that resonates with you, of course you have to steer the ship a little to bring it to a tangible state. I have a whole process that involves modelling and 3D printing, and meticulously setting up shots, but the more open and less rigid I'm able to be, the stronger my work is and the more satisfaction I get from creating it.

In regards to motivation, it is purely set in the act of creating something, that is the factor that feels real to me. It is nice having a finished piece that I'm proud of but it is the act of creating in itself which is absolutely the driving force. When I was first discovering my creative process I noticed early on that when I wasn't actively creating something or at least thinking or planning on something to create, I felt quite restless, so it's always about the act of creating. I also think that it is wise to find contentment with one's art or craft with as little outside influence as possible.

Of course, it is always a pleasure to have your work admired or enjoyed because it creates a connection with the viewer, and feeling your work is validated in some sense can be pleasurable even if it's based on our ego, but if you never had anyone say anything nice about your work or

no one ever saw it, would you still be motivated to create it? If the answer is yes, then I think that is a very healthy place to be, artistically speaking.

As for what captures my attention and imagination, potentially anything, because I try my best to be very open with what's around me and what I am experiencing. This could be art and media I consume, emotions or conflicts I'm experiencing, or even people I meet. I try to let these experiences be what they are and not try to commandeer for my own artistic purposes, and what ends up happening is that all of these experiences intertwine and percolate and an idea for a piece eventually rises to the surface.

I do find that visually I am attracted to contrasting elements and ideas. I find the things that resonate the most with me are pieces of art and ideas that are not so much fixed in their subject or message, but things that are open and have room for multiple interpretations or ways of perceiving them which I feel is more attuned with the human experience. This feeds my imagination because it usually gets me asking myself "What If?" type questions and then so many doors open up for different thoughts and ideas.

In regards to a collaborator, that's a very fascinating way of thinking about it and I suppose it feels to me like everything is collaborating with my work to some degree. That may sound a little "New Age" but because I try to be open with everything, it all ends up mixing and flowing and eventually makes its way to a finished piece. That's a great question, I'll be thinking about that for a while.

Some artist believe that being open, reflexive and responsive to their muse is the basis of their art and that they are channels or collaborators in that process. Many of your images have a very 'subconscious' feel to them. I'm curious, what has been the audience response Vs the critics response to your art?

I have been very fortunate in that regard. People have been very supportive of my work and very kind as well. I actually haven't had any negative experiences with the audience that sees my work or with critics. I have a somewhat unique style which I can imagine is not to everyone's taste, nothing ever is to everyone's liking, but perhaps I'm fortunate enough that those who may feel negatively about my work are just too kind to point it out to me, haha.

I will say my biggest critic is probably my partner, as she won't hesitate to tell me when one of my pieces makes her "feel weird" or if it evokes discomfort which is not actually a criticism per se, due to the nature of some of my work, but I can always tell when she really likes something I've done and any honest opinion can be very valuable.

Many artist have felt road blocked by the traditional route of selling their art through galleries. You have been quite successful with your NFT sells. What is your response to an established art world which appears biased towards art done by the artist hand?

That is something that I don't think about very often, maybe to my detriment, I usually just keep my head down and work, but I think there are factors that have been in place for a while but now are starting to shift with NFT's. I myself feel somewhat in between the two worlds being a photographer. Of course there is such a long, long history of traditional art that is ingrained in us, it's in the fabric of our culture. With that comes a lot of rigid ideologies and opinions about what is true art, or what art has more value, mainly because those ideas have been established or accepted by many for a very long time.

I think doors are opening up and many more people are realising that art is the expression, not the medium, and I think a lot of new people are appreciating that expression because it is exciting and energetic and inspiring. That's not to say that the traditional arts are not equally valuable to me, because they are, it's just that these newer mediums are art as well, and now we are starting to make room for them. That's the way I feel about it, I'm in no way an authority on the matter and I've never felt very comfortable holding rigid ideologies, I just hope that more people focus on and celebrate the creation of art itself and be open to it, regardless where it comes from.

I do too. James, thank you so much for taking time to share your thoughts with us.

Dream Mathematicians

This concludes the interviews for NFT: Is it Art? We could have easily said Generative AI: Is it Art?

I would like to close with presenting informational perspectives on Generative AI art, one from myself and then one from Mr. Ambrosi. I have been making art with AI generative processes now for two years. In that time, I have generated thousands and thousands of images. The following is my view, as an artist, in working with generative AI platforms.

"Art is an ever-flowing exchange of discovery and meaning in moments that enfold and unfold knowledge in meaningful relationships." — John Anderson

There is a strong correlation of the above statement with dreaming and for working with an AI. For example, while falling asleep, I love to watch my mind construct hypnagogic imagery, thoughts, and scenes completely on its own without any input from me. It's a game of hide and seek.

These mental hypnagogic states are performing actions like mental waking states, where the mind calls upon deep data sets that it has been collecting, from day one, in order to construct its reality from various sensory and perhaps non sensory inputs. It does the same thing when I fall asleep.

Occasionally I become aware of myself in these dream states, not as the creator of them but rather as the observer. During states of lucid dreaming, when I am awake inside the construct of a dream, I am aware that my mental state is dreaming. At times like these I can provide input

into the construct as instruction sets or parameters to influence the direction but not create the dream. For example, I will things like flying inside that dream. However, the course from there is beyond my control. I am not the creator but, I am the observer/collaborator.

This is similar, in a way, when working with an AI to create artistic images. The AI draws from huge data sets and learning instruction built into it, performing on its own with little of my involvement. I can provide input parameters into the AI process to influence its direction (like willing to fly inside a dream) while still, the creation of the image is beyond my control. Here, I find myself to be an observer and not the creator. I like this because it leads to greater meanings and discoveries that i would not have found otherwise. Here I am performing the role of the Artist as Observer, and in part as the Artist as Creator/Collaborator/Curator.

When working with the AIs, i let them run through several hundreds of iterations and then select the final image. In that fashion, perhaps i am a curator as well.

In my digital work, I am discovering worlds that couldn't otherwise be seen; exploring moments that exist implicitly, but only manifest through a particular collaborative approach using a unique set of instruments. In this activity, the abstracting and pictorial process becomes quite mysterious as images and various incarnated equivalents reveal themselves on a stage that speaks to worlds more real than real. When that synthesis occurs, something happens that transcends the boundary of both observer and creator, in which a greater truth is revealed, art's mysterious ministry.

— John Anderson

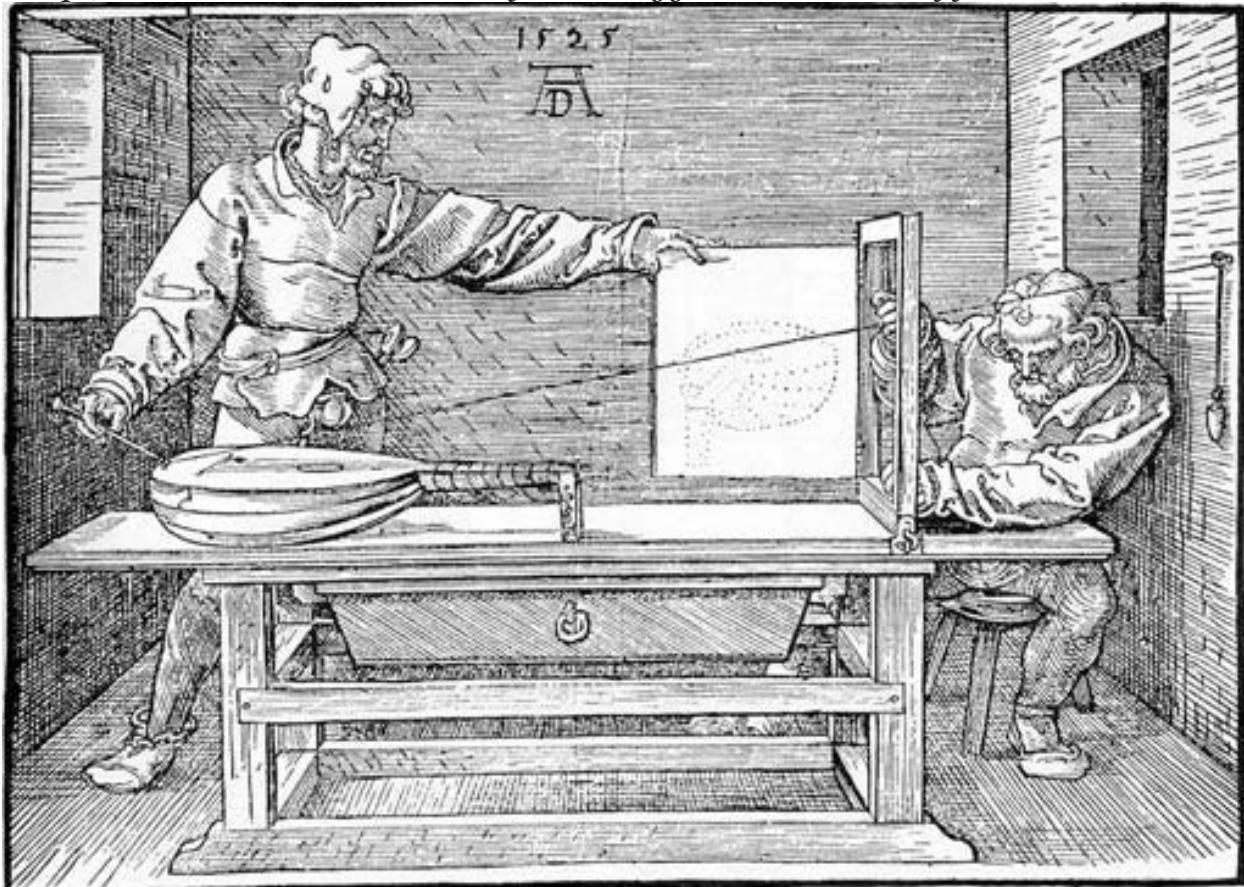
Fine Art and the Unseen Hand Daniel Ambrosi

ABSTRACT:

Throughout the ages, a dance has taken place between art and invention; expression and technique. Traditionally, a greater appreciation and higher value has been assigned to artworks that are primarily handcrafted by their human creators, or where the hand of technology has been hidden or subdued. In those instances where the application of technology to visual expression unavoidably brought attention to itself (e.g., photography, multimedia, 3D graphics), the initial reaction of the art world has been to discredit or diminish the importance of these works to the progression of fine art. The thesis of this article is that this initial assessment contains a bias toward

handmade art that is ill-founded; history has repeatedly shown that the injection of new technologies into artistic expression has never, by itself, precluded the eventual acceptance and legitimization of new art forms.

Now, advances in virtual reality and artificial intelligence are ushering in novel and powerful opportunities for visual expression where technology—more than ever—becomes an active partner in both the artistic process and the art experience. Let's learn our lessons from the past: In this age of exponential change, it is time to recognize, accept, and even celebrate the role of technology in the evolution of fine art.



Man Drawing a Lute (1523) by Albrecht Dürer

INTRODUCTION:

The history of art is filled with documentation and speculations regarding the tools and technologies artists used to execute their visions. Interestingly, this topic often generates heated discussions among a wide variety of scholars, not only about the plausibility of specific theories but also with respect to considerations of artistic talent and intent. Take for example the Hockney-Falco thesis advanced by artist, [David Hockney](#) and physicist, [Charles M. Falco](#), which posited that the development of optical instruments helped advance realism in Western art since the Renaissance.

Hockney-Falco thesis - Wikipedia

The Hockney-Falco thesis is a theory of art history, advanced by artist David Hockney and physicist Charles M. Falco...
en.wikipedia.org

Art historians in particular seemed offended by the implication of this theory: that the Old Masters “*cheated and intentionally obscured their methods.*” These strong negative reactions in turn imply that these scholars believe the great works of these masters would somehow be of less value or indicative of a lesser talent if indeed these works were not produced entirely by hand and by “*eyeballing it.*” But why should this matter at all? Of what consequence is the artist’s manner of execution to the ultimate expression and appreciation of an art piece? If an artist was able to manifest their artistic vision fully-formed with a snap of their fingers, would that artwork have no value?

EXPERIMENTATION:

It has been said before that every great artist is a great inventor. Frustration can be a strong motivator. My own frustration with the limitations of traditional photography forced me to tinker and experiment with both old and new approaches to my art form that ultimately led to [critically-acclaimed work](#). But that’s a story for later. First, let’s

consider a more famous example where it's highly likely (although not conclusively proved) that the interplay between art and invention led to a huge advance in artistic expression.

The 17th-century Dutch artist, [Johannes Vermeer](#), is considered one of the greatest painters of all time; to some "*an unfathomable genius.*" His exquisite handling of light and near-photographic realism was many decades, if not centuries, ahead of his contemporaries. And yet very little is known of his artistic training or background. This has led to much speculation over the years among art scholars that Vermeer made use of optical aids in executing his works. This, in and of itself, isn't particularly controversial; there are several well-established cases of artists in prior centuries using optical instruments to assist them. What is controversial—and even shocking—is the possibility raised recently by prolific inventor, Tim Jenison, that Vermeer might not have had any artistic skill or experience at all! Jenison followed this hunch to its logical conclusion by attempting to faithfully recreate a Vermeer painting from scratch despite having no artistic training whatsoever... and he succeeded:



Johannes Vermeer's "The Music Lesson" (left, 1665) vs. Tim Jenison's experimental homage (right, 2013)

This ambitious (and excruciatingly tedious) experiment was documented in the fascinating 2013 film, "[Tim's Vermeer](#)" by Penn & Teller. At the conclusion of the film, Penn Jillette had this to say:

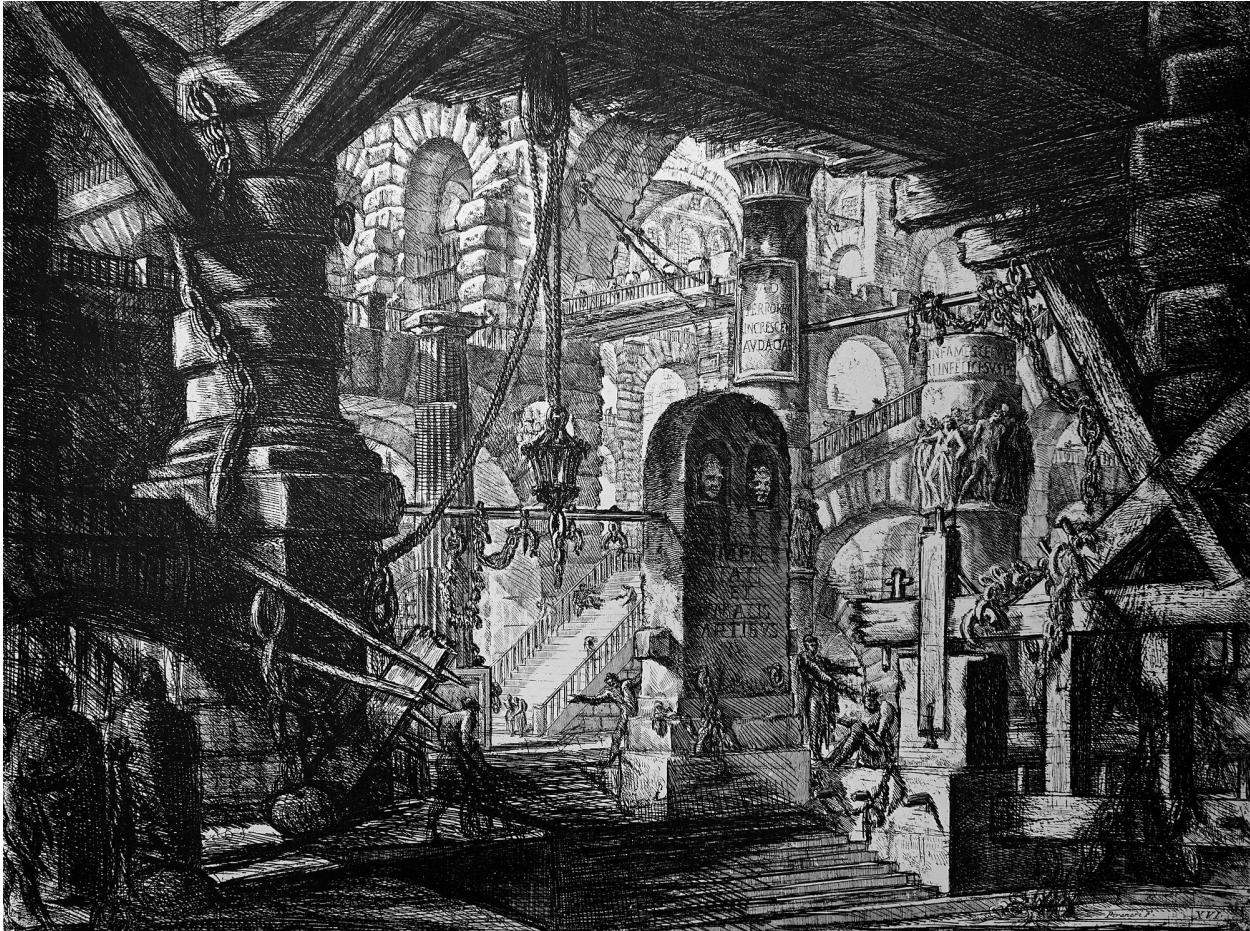
"My friend Tim painted a Vermeer. In a warehouse, in San Antonio. He painted a Vermeer. And is Tim an artist, or is Tim an inventor? I think the problem is not trying to pick one of those two for Tim to be, but the problem is that we have that distinction. What Tim has done is given us an image of Vermeer as a man who is much more real, and in that way much more amazing. I mean, unfathomable genius doesn't really mean anything. Now he's a fathomable genius. If there's any great merit in this picture as a work of art, it's Vermeer's. It's Vermeer's composition... and it's Vermeer's invention. It's just been forgotten for 350 years."

Vermeer's paintings might be 350 year-old color photographs
Tim Jenison, a Texas-based inventor, attempts to solve one of the greatest mysteries in the art world: How did Dutch...
boingboing.net

SPECULATION:

Germane to this thesis, it may be useful to consider a couple “what if” scenarios...

Giovanni Battista Piranesi was an 18th century Italian artist famous for his etchings of Rome and whose haunting depictions of imaginary prisons (“*Le Carceri d’Invenzione*”) continue to captivate viewers to this day:



Le Carceri, Plate XVI (Second State) by Giovanni Battista Piranesi

What if, back in 1750 or so when Piranesi was working on this series, he had at his disposal a sophisticated mechanical tool that could intelligently rework his etchings line-by-line in a wide variety of ways in order to serve a specific artistic intent? For example, perhaps this device could lend an extra dreamy flow and coherence to his vision without requiring any additional effort on his part beyond configuring a few wheels and gears. Should Piranesi avoid the use of such a device for reasons of artistic purity or because the ratio of impact achieved to effort expended would be unusually high? What if an ambitious assistant demonstrated this device and showed Piranesi what it could do for him? Should that assistant be chastised and expelled from his studio for daring to suggest that the master's work could be improved or his artistic vision more fully expressed or explored?



Le Carceri XVI ("dreamed" with artificial intelligence software by the author)

And what if an even more ambitious and technologically-adept assistant came up to Piranesi and said, “*Hey capo!*” (That’s “boss” in Italian.) “*How about I take all 16 of your popular Carceri etchings and create a visual medley in three dimensions that your fans can walk through and interactively explore, perhaps while playing some mournful cello music in the background?*” Would that be an extension of Piranesi’s artistic intention... or a cheap trick? You be the judge:

PROGRESSION:

Let’s talk about artistic progression for a bit by focusing on a particular art form, that of representational landscapes. Currently, this art form is beginning to undergo a shift into a third paradigm. The first paradigm, landscape painting, emerged as a unique art form in 17th century Europe due in part to the popularity of evocative paintings depicting scenes in and around Rome by the French artist, [Claude Lorrain](#). Representational landscape painting reached its pinnacle in the mid-19th century with the body of work created by the painters of the [Hudson River School](#) in the United States.



The Heart of the Andes (1859) by Hudson River School painter, Frederic Edwin Church

The second paradigm began with the commercial introduction of the daguerreotype camera in 1839. You can bet landscape painters of this time felt pretty threatened when—right at the top of their game—suddenly a device comes along that can capture the actual photons representing the scene. But the truth is photography was, at first, a big step down in quality and impact; the color wasn't there, the resolution wasn't there, you couldn't make huge prints, etc. For these reasons, and because early photography was largely experimental, landscape photography was not initially accepted as a legitimate art form. But gradually this changed as techniques and results steadily improved and you had folks like [Ansel Adams](#) producing majestic black-and-white landscape images in the first half of the 20th century...



The Tetons and the Snake River (1942) by Ansel Adams

...and in the mid-1900's, sensitive individuals like [Eliot Porter](#), whose intimate landscapes did much to boost acceptance of color photography as an artistic medium...



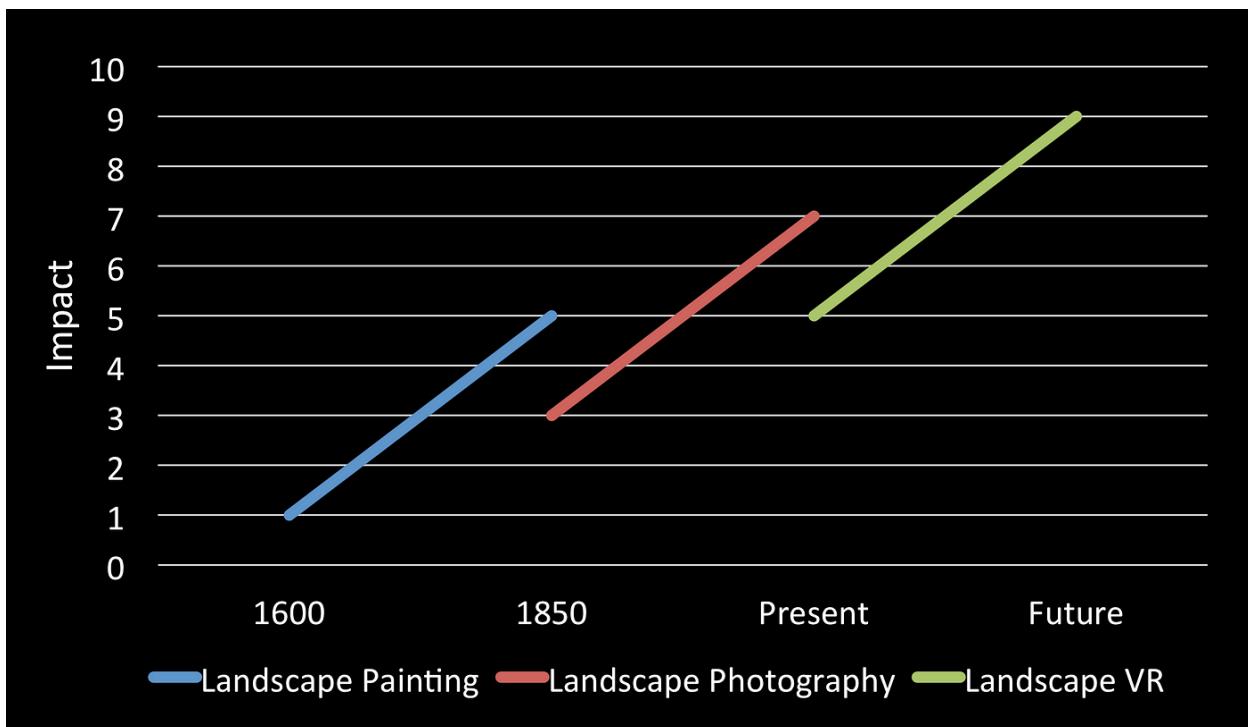
Redbud Tree in Bottomland (1968) by Eliot Porter

... and in the late 20th century, folks like [Peter Lik](#) using panoramic film cameras to create large format works that, at least in some respects, surpassed those of the great representational landscape painters.



Magic Cove by Peter Lik

A similar progression is taking place now as landscape art enters a third paradigm with the advent of virtual reality. Again, we're seeing a bit of a step down in quality and impact, with lots of room for improvement and plenty of problems to solve. But that will happen, and as it does, landscape VR will gradually become accepted as a legitimate art form.



2 steps forward, 1 step back: The stepwise progression of landscape art

EXPRESSION:

So what is it exactly that drives art forward? Is artistic progression primarily driven by opportunistic and/or open-minded creators looking to capitalize on, or experiment with, new technologies and methods? Or is art mainly advanced by frustrated individuals with a burning desire to more effectively express their inner visions, thoughts, and feelings? Or is it both? And why are these artistic developments usually met with disdain or dismissal by art critics and scholars?

Consider the progression of the great [J.M.W. Turner](#), the celebrated painter of early 19th century England. When his painting “*The Dort*” was first exhibited in 1818, it was hailed as “*one of the most magnificent pictures ever exhibited*” and Turner’s contemporary, English Romantic painter John Constable, called it the “*most complete work of a genius I ever saw.*”



Dort or Dordrecht — The Dort packet-boat from Rotterdam becalmed (1818) by J.M.W. Turner

Over time, Turner developed a looser, more evocative style that was initially met with some controversy by more conservative members of the art establishment, sometimes resulting in relegating his newer, more daring works to ancillary halls at important art exhibits, despite his fame and credibility.



The Fighting Temeraire (1839) by J.M.W. Turner

When, later in life, Turner really began to push the expressiveness of his works, the push back was formidable: he was widely mocked and both his eyesight and mental health were questioned. Of course in retrospect Turner is now seen as a trailblazing genius who set the stage for the Impressionist movement that followed in the second half of the 19th century.

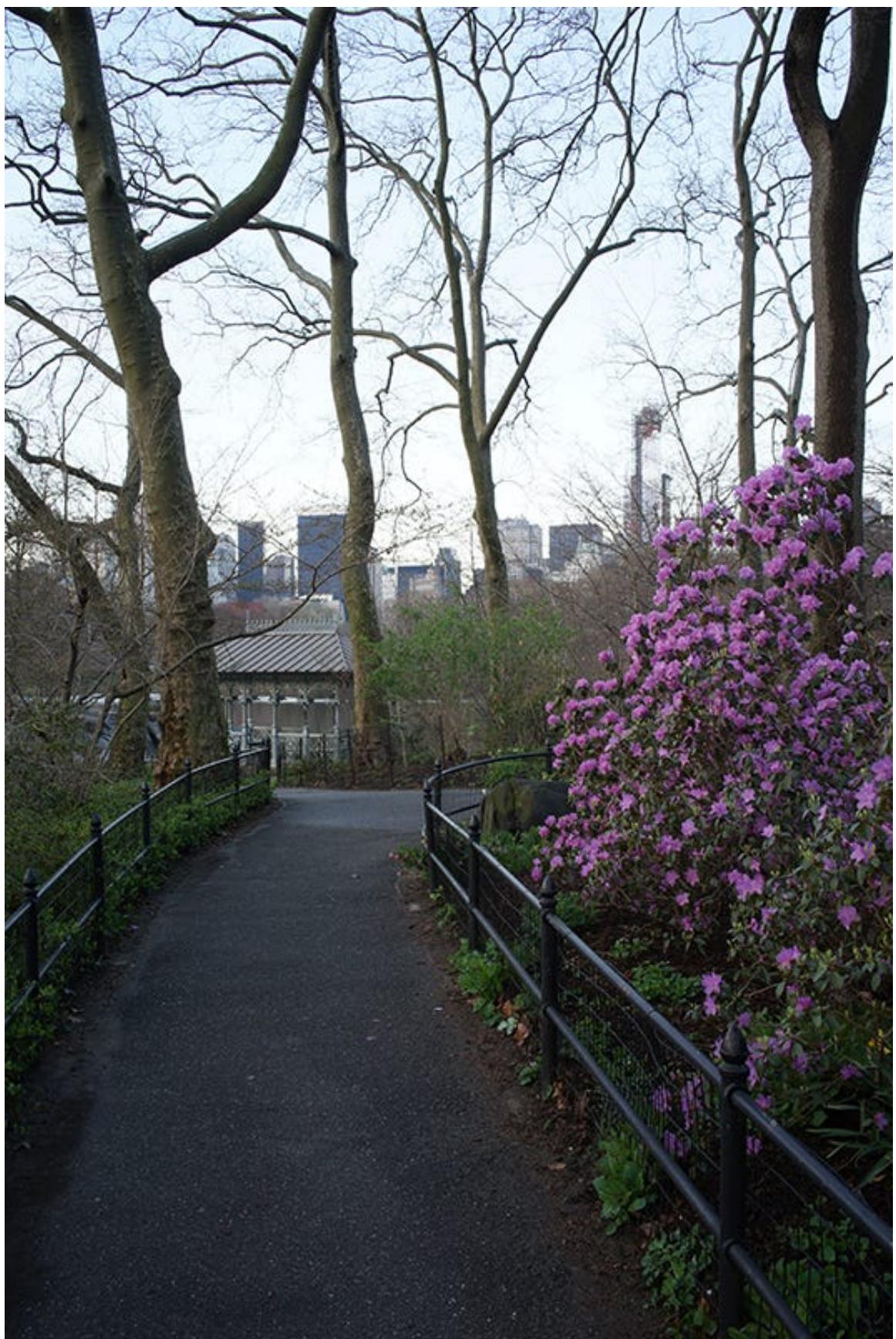


Norham Castle, Sunrise (1845) by J.M.W. Turner

Turner's progression is a vivid example of an artist pushing the limits of what his tools and technology could enable for the sake, no doubt, of more fully realizing or expressing his artistic vision. Ultimately, he was celebrated for this. Should he be any less celebrated if he had chosen to explore beyond his toolset and experimented with new technologies such as, say, photography? My point in asking that question is to illustrate that there is more than one way to skin a cat: an artist can experiment within their toolset or beyond. And both approaches should be considered equally legitimate.

I'll now use an example of my own work where I had to do both: first pushing the limits of my existing toolset and then reaching beyond into entirely new technologies in order to achieve a specific artistic intent...

As an avid hiker, skier, and traveler, I have many times come across scenes of such breathtaking grandeur and beauty that I am struck not just visually, but also viscerally, and cognitively. When that happens, I find myself desperately wanting to bottle my experience with such fidelity that when I share it with others later, the same thing happens to them. My inability to make that happen with traditional photography was a source of endless frustration.



Central Park Azalea Walk (single exposure captured with a 35mm lens, 2013) by the author

Ultimately, this led me to experiment with computational techniques that pushed the limits of my available toolset—*within the domain of photography*—to create depictions of landscapes that were more immersive, more vibrant, and significantly higher resolution than I had been able to achieve before. This was essentially accomplished by stitching and blending together dozens of individual photos in order to “force” my camera to see the world more closely to how human eyes see the world. Refinement of these methods eventually generated a body of work that took me two-thirds of the way toward achieving my goals; by all reports, I managed to impact people not just visually, but also viscerally with my [new imagery](#).



Central Park Azalea Walk (63-shot photographic assemblage, 2013) by the author

The cognitive effect, however, remained out of my reach for the time being. Then, in July 2015, Google released a bit of open source artificial intelligence (AI) software called [DeepDream](#) that became a viral sensation. This software was initially developed as a diagnostic utility to help Google researchers understand how their own AI-based image recognition tools were working. Running DeepDream had an unexpected hallucinatory effect upon images subjected to its analysis. When the general public got their hands on this software, the Internet went crazy! People all over the world used DeepDream to turn their photos into, well... psychedelic nightmares. Like most novelties, DeepDream became an amusing fad that quickly came and went.

I, however, had other ideas in mind. It occurred to me that DeepDream might just be the tool I needed to add a level of expressiveness to my images that, like the later works of Turner and that of the Impressionists, could take my art in a new direction. Encouraged by the results and feedback on initial low-resolution experiments, I pressed on to find a way to use DeepDream on my giant images.



Central Park Azalea Walk Dreamscape (initial low-resolution “dreaming” test, 2015)

Unfortunately, DeepDream as released was simply not designed to operate successfully on multi-hundred megapixel images like those in my collection—it would just crash. Fortunately, I was eventually able to convince two brilliant software engineers, [Joseph Smarr \(Google\)](#) and [Chris Lamb \(NVIDIA\)](#), to modify the DeepDream source code to suit my purposes. Their turbocharged version of DeepDream made it possible to imbue my giant landscape scenes with a stunning degree of wholly unexpected form and content that is only revealed upon close-up viewing.



Central Park Azalea Walk (original photographic detail, 2013)

With the help of my ingenious engineering collaborators, I ultimately found a way to close the loop on my artistic intention and deliver a cognitive experience to my viewers. From a distance my large format artworks appear to be a photographic reality, but up close they are revealed as a digital fantasy. This forces my viewers to question the reality of what they are seeing in precisely the same way I find myself questioning the reality of

what I'm seeing when I am in the presence of scenes powerful enough to affect me both visually and viscerally.



Central Park Azalea Walk Dreamscape (“dreamed” detail, 2016)

But here's the interesting thing about this: I managed to fulfill my artistic intent with the help of a digital aid that was initially derided as a gimmick. This software has unlocked a superpower for me in the sense that I could never execute [these images](#) solely by my own

hand and even trying to do so would require a prohibitive amount of time and training. And while I can set the direction of my digital aid, I've had to give up a degree of control in that I can't really tell it exactly what to do and, in fact, I honestly don't even fully understand how or why it's doing what it's doing. It may even be fair to say that the level of power and autonomy of my customized DeepDream software elevates this tool to that of a full-fledged artistic collaborator, albeit an artificially intelligent one. Does this diminish the value of these artworks? Does the fact that sometimes I'm sleeping while my AI collaborator tirelessly labors away, performing literally hundreds of quadrillions of math operations in the process of transmuting my images, make its contribution to my artwork worthless? I can tell you with confidence that it certainly doesn't diminish their impact; quite the opposite is true. And besides, to paraphrase Penn Jillette's comments above on Vermeer: It's my composition... and (for the most part) it's my invention.

COMPUTATION:

Digital computing brings with it an ever-accelerating power to process data, reveal patterns, and otherwise extend our natural capabilities... and for this it should be celebrated. Lest you think this article is all about me, I'd like to share two more examples of other artists using computation to great effect.

[Stephen Wilkes](#)' "*Day to Night*" photographic series has captured the imaginations of a wide audience and earned him a TED Talk that has been viewed over 1.5 million times as of this writing. Wilkes leverages technology to push the limits of traditional photography in order to "*explore the space-time continuum*" and "*reveal the stories hidden in familiar locations.*"



The Flatiron, NYC. Photograph © Stephen Wilkes

Learn more about Wilkes' compelling work here:

Capturing Both Night and Day in a Single Photograph
Photographer Stephen Wilkes has become well-known for his project titled “Day to Night,” which features single images...
petapixel.com

In the tradition of the world's best tinkerers, [Adam Magyar](#) has engineered an ultra-high-speed photography rig that he has used to create some of the most mesmerizing video footage ever seen. His work is another vivid example of technology providing an artist a superpower with which he can express an artistic vision that would simply not be possible to execute by hand. As you'll see in the video below, his cold unthinking camera rig ironically plumbs the depth of his unwitting subjects' souls in a way that could only be captured surreptitiously and at lightning speed.

Learn more about Magyar's brilliant achievements here:

Einstein's Camera
How one renegade photographer is hacking the concept of time
medium.com

CONCLUSION:

Throughout history, technology—our tools and techniques—have enhanced not only our abilities and our productivity, but also our creativity. Beyond mere utility, technology can and has been leveraged toward what people want to express, not just what they want to get done. We are now reaching a point where our tools can become active partners in our creative efforts and even our collaborators, helping us to realize our artistic visions and execute our ideas in ways that we could never do on our own... but working towards goals

that we set and direct. It is time to move beyond the bias toward handmade art once and for all. Doing so will not in any way diminish or threaten the value of fully handcrafted artworks moving forward, just as it should never have done to technologically-enabled art in the past.

Comment Conclusions

In the end, an artist's works may divulge more information about the viewers than they do the artist who creates them. And why not, if we consider the true process of imagination; of creating images to communicate truth. It doesn't matter what name or label we give to a work, but it does matter what function it serves. Is there meaning conveyed and new knowledge gained that brings the creator and viewer into a greater understanding of truth? That is the essential question, should we endeavor to understand it. The function of art is to communicate what eschews banality and excites the imagination; what motivates us to dig deeper and fly higher to gain truth.

Today when GenerativeAI artists work with various algorithms, prompts, filters, and visual modulators, and process workflows, they discover worlds that couldn't otherwise be seen. They begin to understand the process at work and how an image can be achieved. Today, they are exploring worlds (moments) that exist implicitly, but only manifest through a particular approach using a unique set of instruments. The abstracting and pictorial process becomes quite mysterious as images and various incarnated equivalents reveal themselves on a stage that speaks to worlds more real than reality. When that synthesis occurs, something happens that transcends the boundary of both viewer and creator, in which a greater truth is revealed — art's mysterious ministry.

Final recommendations here is that we, as a society, should not endeavor in folly trying to define or limit what is and what is not copyrightable art. In so doing we only waste time and do little in stemming the incoming waves of the technology into the realm of art. All digital art can be copyright protected today, without consent from the Library of Congress and other organizations, through the minting of NFTs. Old black and white artistic photographs are wonderful, but they are a thing of the past. This is reflected in their sales and demand. The same will happen to paintings. Soon gallery walls will exist as large electronic display and work will be presented on them in various ways and types of exhibitions and should we dare say, in the sale of this digital AI generated work in auctions of all sorts, including NFTs. The genie is already out of the bottle and when it comes to creativity using AI, it is already game over.